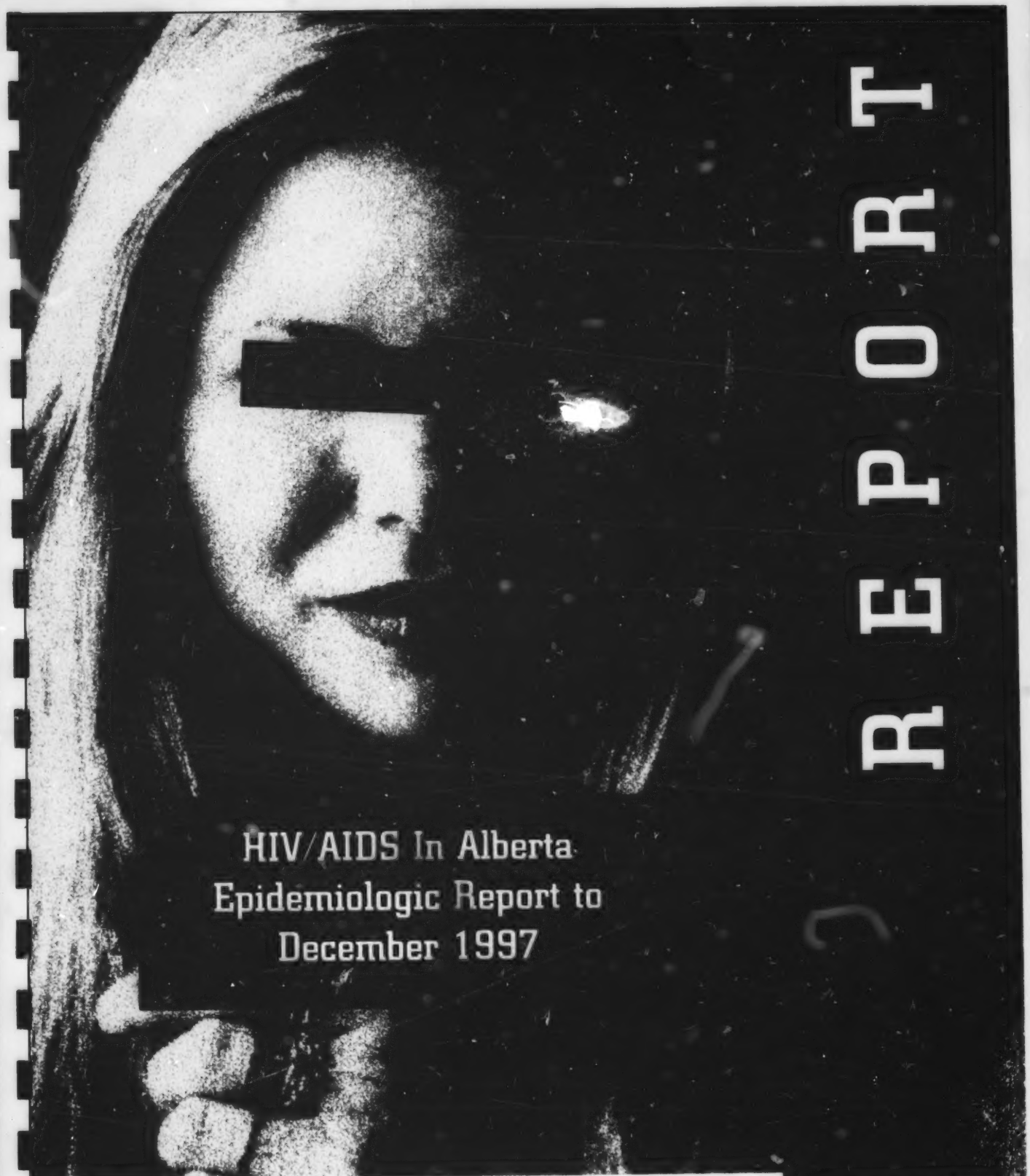

REPORT

HIV/AIDS In Alberta
Epidemiologic Report to December 1997

Alberta Health • Provincial Health Officer
• Health Surveillance

April 1999

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Letter of Introduction:

The Health Surveillance Branch and the Provincial Health Officer of Alberta Health are pleased to provide you with *HIV/AIDS in Alberta: Epidemiologic Report to December 1997.* This integrated report covers the period from the beginning of the epidemic to December 31, 1997. We anticipate that a similar report or update will be published annually.

All cases of AIDS and HIV diagnosed and reported to the Provincial Health Officer by December 31, 1997, are included in this report. Cases diagnosed prior to December 31, 1997, but reported after this date will be included in subsequent updates.

The report is presented in three parts. The first section defines HIV/AIDS terminology and discusses limitations of the data. The second section describes AIDS surveillance in the province and provides an overview of the AIDS epidemic in Alberta. Similarly, the third section describes HIV surveillance and provides an overview of HIV in the province. Because HIV was not notifiable in Alberta prior to May 1, 1998, the amount of information on this infection is limited. However, now that HIV is reportable a more detailed picture of this condition will be provided in subsequent reports.

We welcome your comments and suggestions. You may contact us at the above address.

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TABLE OF CONTENTS

Alberta

1. INTRODUCTION

1.1 Definitions, Technical Notes and Abbreviation 4

1.2 Data Collection and Limitations 7

2. AIDS IN ALBERTA

2.1 AIDS Surveillance 9

2.2 Current Status Of The AIDS Epidemic In Alberta 10

Table 2.2.1A Total number of AIDS cases reported by province/territory and year of diagnosis, to December 31, 1997 10

Table 2.2.1B Rates and rate ratios for incidence of reported AIDS cases by province, 1997 11

Table 2.2.2 Cumulative incidence of reported AIDS cases in adults by year of diagnosis and gender, Alberta, to December 1997 12

Figure 2.1.1 Incidence of reported AIDS cases in adults by year of diagnosis, Alberta, to December 1997 12

Table 2.2.3 Cumulative incidence of reported AIDS cases in children by year of diagnosis and gender, Alberta, to December 1997 13

Table 2.2.4 Rate of reported AIDS cases per 100,000 population in adults by year of diagnosis and gender, Alberta, 1985 to 1997 13

Figure 2.2.2 Rate of reported AIDS cases per 100,000 population in adults by year of diagnosis and gender, Alberta, 1985 to 1997 14

Table 2.2.5 Number of reported AIDS cases, known deaths and case fatality in adults by year of diagnosis and gender, Alberta, to December 1997 14

Figure 2.2.3 Number of reported adult AIDS cases dead and alive by year of diagnosis, Alberta, early 1980s to December 1997 15

Table 2.2.6 Number of reported AIDS cases by year of diagnosis and age at time of diagnosis, Alberta, to December 1997 16

Table 2.2.7 Cumulative incidence and percentage of reported AIDS cases by region of residence at time of diagnosis, Alberta, to December 1997 16

Table 2.2.8 Cumulative incidence and percentage of reported AIDS cases for adults by exposure category and gender, Alberta, to December 1997 17

Figure 2.2.4 Percentage of reported AIDS cases in adults by exposure category and year of diagnosis, Alberta, to December 1997– Males only 17

Figure 2.2.5 Percentage of reported AIDS cases in adults by exposure category and year of diagnosis, Alberta, to December 1997– Females only 18

Table 2.2.9 Cumulative incidence of reported AIDS cases for all ages by presenting condition, Alberta, to December 1997 18

3. HIV IN ALBERTA

3.1 HIV Surveillance 19

3.2 Current Status Of The HIV Epidemic In Alberta 20

Figure 3.2.1 Cumulative percentage of HIV positive tests by region and gender in Canada, 1985 to 1997 20

Figure 3.2.2 Percentage of HIV positive tests by region of Canada, 1985 to 1996 21

Table 3.2.1 Rates and rate ratios for incidence of HIV positive tests by province, 1996 21

Table 3.2.2 Cumulative incidence of HIV positive tests by age category and gender, Alberta, 1986 to 1997 22

Table 3.2.3 Cumulative incidence of perinatal HIV-exposed infants by geographic region and current status, Alberta, to the end of 1997 23

Figure 3.2.3 HIV positive tests by age category and year of diagnosis, Alberta, 1991 to 1997 23

Table 3.2.4 Incidence of HIV positive tests by age category and gender, Alberta, 1997 24

Figure 3.2.4 Incidence of HIV positive tests by age category and gender, Alberta, 1997 24

Table 3.2.5 Rates of HIV seropositivity per 100,000 population by age and gender, Alberta, 1997 25

Figure 3.2.5	Rates of HIV seropositivity per 100,000 population by age and gender, Alberta, 1997	25
Figure 3.2.6	Rates of HIV seropositivity per 100,000 population by year of diagnosis, Alberta, 1986 to 1997	25
Figure 3.2.7	Rates of HIV seropositivity per 100,000 population by age and gender, Alberta, 1986 to1997	26
Table 3.2.6	Cumulative incidence of HIV positive tests by exposure category, Alberta, 1986 to 1997	26
Table 3.2.7	Percentage of HIV positive tests by exposure category and year of diagnosis, Alberta, 1986 to 1997	27
Figure 3.2.8	HIV positive tests by exposure category and year of diagnosis, Alberta, 1991 to 1997	27
Table 3.2.8	Incidence of HIV positive tests by exposure category and gender, Alberta, 1986 to 1997	28
Figure 3.2.9	Incidence of HIV positive tests by exposure category, Alberta, 1997	28
Table 3.2.9	HIV serological testing by geographic region and year of testing, Alberta, 1986 to 1997	29

APPENDICES

Table A1	Number of AIDS cases by year of diagnosis and age at diagnosis, Alberta, 1985 to 1997	30
Table A2	Cumulative HIV positive tests by age category and gender, Alberta, 1986 to 1997	31
Table A3	HIV serological testing by geographic region and year of testing, Alberta, 1986 to 1997	31

1. INTRODUCTION

This report presents a picture of the HIV/AIDS epidemic in Alberta. It includes all cases of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) diagnosed and reported to the Provincial Health Officer before December 31, 1997. Positive tests diagnosed prior to December 31, 1997, but reported after this date, will be included in subsequent updates.

The report is presented in three parts. The first section defines HIV/AIDS terminology and discusses limitations of the data. The second section describes AIDS surveillance in the province and provides an overview of the AIDS epidemic in Alberta. Similarly, the third section describes HIV surveillance and provides an overview of HIV in the province.

Under the *Public Health Act* and the *Communicable Diseases Regulation*, it has been mandatory in Alberta since 1983 to report all cases of AIDS to the Provincial Health Officer and subsequently to the Laboratory Centre for Disease Control (LCDC) in Ottawa. It became mandatory to report all cases of HIV in Alberta on May 1, 1998. Now that both AIDS and HIV are notifiable diseases, a more detailed picture of the epidemic will be available in subsequent reports.

Definitions:

Cumulative Number of Cases[1]
The total number of cases reported in the population, including those who have died since the beginning of the epidemic.

Incidence[1]
The total number of cases that have occurred in the population, including those who have died, within a fixed period of time (frequently per year, e.g. annual incidence).

Point Prevalence[1]
The total number of known cases alive at a specific point in time.

Reporting Delay
The difference in time between diagnosis and reporting. Health Canada reports that 50 per cent of AIDS cases are reported within nine months after the date of diagnosis, but that recorded reporting has been delayed as long as 13 years.

Unreported Cases
The total number of cases that have been diagnosed but not yet reported. Some of them will be reported in the future, resulting in reporting delay, and some may never be reported.

Reported Cases by Year of Diagnosis
The breakdown of reported cases by the year of actual diagnosis, as opposed to the date of reporting. This gives a more accurate picture of the epidemic but due to reporting delay may not be complete for recent years.

Rate
The number of cases that have been reported per 100,000 population for a specified period of time (annual or cumulative).

Rate Ratio[1]
The rate for one jurisdiction over the rate for a second jurisdiction, e.g. provincial rates over the national average.

Adults
All persons aged 15 years or older.

Children
All persons under the age of 15 years.

1 This number is not complete due to reporting delay, underreporting and incomplete data on deaths, e.g. deaths that occurred outside of the province.

Technical Notes:

Exposure Category

Exposure category refers to risk factors that individuals are exposed to that increase their risk of contracting HIV/AIDS. If more than one exposure category was given for any one report, the report was classified according to the exposure category listed first in a nationally accepted hierarchy. For example, injection drug use is accepted as a higher risk activity than heterosexual sexual activity so the case would be assigned to the IDU (see below) exposure category. A small number of cases are reported with no known or acknowledged risk factor.

Time frame for data capture

All cases of HIV and AIDS that were diagnosed and reported to Alberta Health before December 31, 1997, are included in the data set used to generate this report. Additional cases diagnosed in 1997 (or earlier) but reported after December 31, 1997, will be included in subsequent updates.

Abbreviations:

AIDS
Acquired Immune Deficiency Syndrome

HIV
Human Immunodeficiency Virus

LCDC
Laboratory Centre for Disease Control

MSM
Men who have sex with men. This refers to homosexual and bisexual sexual activity.

IDU
Injection drug users

1.2 Data Collection and Limitations

Data on the incidence of HIV and AIDS in Alberta are collected by a variety of different agencies and are not fully integrated. Some of these agencies include: LCDC in Ottawa, Alberta Health, the North and South Provincial Laboratories of Public Health, the Red Cross Laboratories, HIV Clinics in Edmonton and Calgary, STD clinics throughout the province, Vital Statistics, and other agencies who provide treatment and support for persons with HIV or AIDS.

The following describes differences in the type of data captured and data collection process for AIDS and HIV:

AIDS

Under the *Public Health Act* and the *Communicable Diseases Regulation*, AIDS has been a notifiable disease in Alberta since 1983 and is reportable by physicians, hospitals and laboratories to the Provincial Health Officer. This information is captured through the submission of HIV/AIDS case reports, which are sent to the Laboratory Centre for Disease Control (LCDC) through Alberta Health. LCDC collates provincial data to provide a national picture. The number of cases reported by LCDC sometimes differs from Alberta Health records because LCDC removes duplicate records for cases reported by more than one province.

More comprehensive data on AIDS cases are collected by Alberta HIV clinics that provide the majority of care for people with AIDS and HIV. However, variations in data collection methods frequently make it difficult to integrate the different databases, and the clinics have been reticent to share their information due to confidentiality issues.

Although AIDS cases have been reportable since 1983, undiagnosed cases and reporting delays make it likely that the number of cases reported is less than the actual number.

HIV

Although HIV seropositivity was not previously a notifiable condition in Alberta, virtually all HIV testing has been done in one of four laboratories in the province[1], with data submitted to the Provincial Health Officer. The laboratories submitted non-nominal data on the number of total tests performed and the number of positive tests detected. Age, gender and reason for testing were provided for positive tests. Follow-up of positive tests by the Provincial Health Officer provided additional information on the risk factors for those individuals.

However, the database is incomplete for various reasons. For example, although every effort is made to remove duplicate records, some specimens are submitted with coded identifiers, making it impossible to identify duplicates. Cases of HIV which are as yet undetected or unreported are missing from this database. As well, a small number of cases, identified through testing done outside of the province for third parties (such as insurance companies), may be missing.

In addition, the self-selected nature of persons seeking testing does not allow for prediction of the level of seropositivity in the various risk groups or in the general population.

1 Provincial Laboratory of Public Health for Northern Alberta, the Provincial Laboratory of Public Health for Southern Alberta and the Red Cross Blood Transfusion Service laboratories in Edmonton and Calgary

Additional data on HIV cases have been collected by HIV clinics in the province and other agencies that provide care for persons with HIV or AIDS. However, the type of data and the way they are collected varies by site, based on treatment, research and programming needs. Given the differences in data collection, issues of confidentiality, incomplete reporting, and difficulty in determining duplicate records, it has been difficult to integrate these data.

HIV is a notifiable condition in most jurisdictions in Canada except Quebec, British Columbia, and the Yukon. It became notifiable in Alberta on May 1, 1998. HIV testing will be offered to all pregnant women in the province by mid 1998 to facilitate early detection and treatment of HIV in both mothers and infants. Adding HIV testing to the list of notifiable diseases and providing prenatal screening will provide better information on the incidence of HIV infection in the province. This information will be used to improve education and prevention programs.

Future Plans

Over the past year, Alberta Health has been developing a comprehensive Public Health Information System (PHIS). AIDS and HIV data will be part of this improved reporting and data collection system. This new system, along with the mandatory reporting of both AIDS and HIV, will result in a more comprehensive and accurate database that will be used for monitoring and to guide program planning for this epidemic. In addition, Alberta Health and LCDC are working collaboratively to create an integrated database for both HIV and AIDS.

2.1 AIDS Surveillance

Health Canada defines an AIDS case as a person with a disease characterized by:

- a positive HIV test result, and
- the onset of one or more specifically defined clinical diseases[1] that characterize a weakened immune system.

AIDS is a reportable disease in all provinces and territories in Canada. Attending physicians complete a standard form that they send to the local medical officer of health, who in turn sends a copy of the report to the provincial or territorial ministry or department of health. All provinces and territories participate in the national AIDS Case Reporting Surveillance System (ACRSS) by submitting information to the Division of HIV/AIDS Surveillance at LCDC in Ottawa.

The purpose of AIDS surveillance is to monitor the magnitude of the AIDS epidemic and try to identify continuing and emerging trends. Because AIDS is the final manifestation of HIV infection, it has been used to monitor the extent and distribution of HIV infection and the burden on the health system. However, because the incubation period between HIV infection and AIDS is lengthy and growing even longer due to the introduction of new therapies, the need to accurately monitor HIV infection is becoming more important.

The first AIDS case in Canada was reported to the Laboratory Centre for Disease Control (LCDC) in February 1982. The first case reported in Alberta was 1983, although subsequently, a case dating back to 1980 was reported.

LCDC estimates that as many as 15 per cent of AIDS cases are not reported. In addition, reporting delays affect the true count of cases. LCDC indicates that approximately 50 per cent of AIDS cases are reported within nine months of diagnosis and 59 per cent within 12 months of diagnosis.

1 Recurrent bacterial pneumonia, candidiasis (bronchi, trachea, lungs, esophageal), invasive cervical cancer, coccidioidomycosis (disseminated or extrapulmonary), cryptosporidiosis (extrapulmonary or chronic intestinal > one month), cytomegalovirus disease (other than liver, spleen or nodes), cytomegalovirus retinitis (with loss of vision), encephalopathy (HIV related dementia), herpes simplex (chronic ulcers > one month or bronchitis, pneumonia or esophagitis), histoplasmosis (disseminated or extrapulmonary), isosporiasis (chronic intestinal > one month), Kaposi's sarcoma, lymphoma (Burkitt's or equivalent term), lymphoma (primary of the brain), *Mycobacterium avium* complex or *M. kansasii* (disseminated or extrapulmonary) or other mycobacterium species unidentified, *M. tuberculosis* (disseminated, pulmonary or extrapulmonary), *Pneumocystis carinii* pneumonia, progressive multifocal leukoencephalopathy, salmonella septicemia (recurrent), toxoplasmosis of the brain, wasting syndrome due to HIV, and in children < 15 years bacterial infections, multiple or recurrent (excluding recurrent bacterial pneumonia) and lymphoid interstitial (pneumonitis) and/or pulmonary lymphoid hyperplasia.

At the national level, LCDC attributes AIDS cases to the provinces based on the person's place of residence at the time of diagnosis. Diagnosis may have occurred outside of the province but if the place of residence given is Alberta, then it is counted as an Alberta case. However, if a person left Alberta, was diagnosed while living elsewhere and then returned to the province, that person would be counted as a case from the jurisdiction where they were living at the time of diagnosis.

As of December 31, 1997[1], LCDC recorded a cumulative total of 15,528 AIDS cases in Canada. Of these, 15,358 cases diagnosed were among adults and 170 cases among children.

There have been 11,373 AIDS-related deaths (73 per cent) among all reported AIDS cases.

As Table 2.2.1A shows, the number of reported cases of AIDS across the country has been declining since 1994, especially in the past two years.

The proportion of AIDS cases diagnosed among women in Canada in 1997 was 15.4 per cent, up markedly from 6.7 per cent in 1991. LCDC reports that before 1993, the ratio of female to male cases was one to 15. In 1995, the ratio was one to 11; in 1996 it was one to eight; and by 1997 the ratio was one to seven[2].

Table 2.2.1A

Total number of AIDS cases reported by province/territory and year of diagnosis, to December 31, 1997*

Province/Territory:	< 1988	1988	1,989	1990	1991	1992	1993	1994	1995	1996	1997	Total	(%)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Yukon	-	1	1	-	-	-	-	-	2	-	-	4	0.0%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NWT	1	2	2	1	1	2	1	2	2	2	0.00	16	0.1%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Manitoba	24	5	16	11	23	17	15	15	15	6	-	147	0.9%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Quebec	768	408	473	441	497	535	564	550	493	323	102	5,154	33.2%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PEI & Nova Scotia	29	15	18	14	23	27	34	37	29	16	5	247	1.6%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	2,225	1,153	1,374	1,415	1,533	1,711	1,735	1,678	1,509	919	276	15,528	100.0%

*Cases diagnosed by December 31, 1997 and reported to LCDC by February 27, 1998.
Source: Health Canada. HIV and AIDS in Canada. Surveillance report to December 31, 1997.

1 Diagnosed by December 31, 1997 and reported to LCDC by February 27, 1998.
2 Health Canada. HIV and AIDS in Canada. Surveillance report to December 31, 1997.

Table 2.2.1B shows the number and rates per 100,000 population of reported AIDS cases for provinces and territories in Canada in 1997. The rate ratio compares individual provincial rates to the overall Canadian rate. The Ontario rate ratio was comparable to the Canadian average, Alberta and Quebec rates were high. British Columbia, the Prairies, Territories and Atlantic rates were comparatively low.

At the provincial level, all newly identified AIDS cases reported to Alberta Health are included in the provincial database. Duplicates are removed, if identified.

Table 2.2.1B

Rates and rate ratios for incidence of reported AIDS cases by province,1997

Province/Territory:	Number of AIDS cases	Population 1996	Rate per 100,000	Rate Ratio	Rate Ratio Classification*
[illegible]	19	[illegible]	0.5	0.5	Lowest
Alberta	40	2,847,000	1.4	1.5	High
[illegible]	2	[illegible]	0.1	0.1	Lowest
Ontario	106	11,407,700	0.9	1.0	Average
[illegible]	102	[illegible]	1.4	1.5	High
Atlantic	7	2,410,700	0.3	0.3	Lowest
[illegible]	276	[illegible]	0.9	1.0	

*Rate ratio classification: lowest 0-0.53, low 0.54-0.81, average 0.82-1.23, high 1.24-1.86, and highest 1.87 or higher
Source: Health Canada. Surveillance report to December 31, 1997. Population counts taken from Statistics Canada. CANSIM, Matrices 6367-6379.

As of December 31, 1997, 925 cases of AIDS have been diagnosed and reported in Alberta since the beginning of the epidemic. Of this number, 918 were adults and seven were children. Males accounted for 94.5 per cent (874) of all cases, females 5.5 per cent (51). Just over 80 per cent of these cases occurred among individuals reporting homosexual or bisexual sexual activity.

The number of reported AIDS cases in Alberta has been declining for the past three years. However, AIDS is only the late manifestation of HIV infection and the number of HIV cases in the province has remained fairly stable over the past three years. Improved therapies are assumed to be responsible for the increasing the delay between infection with HIV and a diagnosis of AIDS. But "reporter fatigue" has also been suggested as a possible cause for the declining number of reported cases.

The following tables and figures provide more detail on AIDS in Alberta. The numbers in these tables may differ slightly from previous tables containing data provided by LCDC. Alberta Health counts all cases for Alberta residents reported to them. LCDC has the benefit of seeing all cases reported across the country. They are better able to remove

2.2 Current Status of the AIDS Epidemic

At the national level, LCDC attributes AIDS cases to the provinces based on the person's place of residence at the time of diagnosis. Diagnosis may have occurred outside of the province but if the place of residence given is Alberta, then it is counted as an Alberta case. However, if a person left Alberta, was diagnosed while living elsewhere and then returned to the province, that person would be counted as a case from the jurisdiction where they were living at the time of diagnosis.

As of December 31, 1997[1], LCDC recorded a cumulative total of 15,528 AIDS cases in Canada. Of these, 15,358 cases diagnosed were among adults and 170 cases among children. There have been 11,373 AIDS-related deaths (73 per cent) among all reported AIDS cases.

As Table 2.2.1A shows, the number of reported cases of AIDS across the country has been declining since 1994, especially in the past two years.

The proportion of AIDS cases diagnosed among women in Canada in 1997 was 15.4 per cent, up markedly from 6.7 per cent in 1991. LCDC reports that before 1993, the ratio of female to male cases was one to 15. In 1995, the ratio was one to 11; in 1996 it was one to eight; and by 1997 the ratio was one to seven[2].

Table 2.2.1A

Total number of AIDS cases reported by province/territory and year of diagnosis, to December 31, 1997*

Province/Territory	< 1988	1988	1,989	1990	1991	1992	1993	1994	1995	1996	1997	Total	(%)
British Columbia	**340**	**175**	**223**	**223**	**263**	**287**	**294**	**291**	**255**	**145**	**19**	**2,515**	**16.2%**
Yukon	-	1	1	-	-	-	-	-	2	-	-	4	0.0%
Alberta	**99**	**64**	**80**	**76**	**82**	**102**	**97**	**123**	**96**	**68**	**40**	**927**	**6.0%**
NWT	1	2	2	1	1	2	1	2	2	2	0.00	16	0.1%
Saskatchewan	**23**	**6**	**8**	**17**	**6**	**11**	**11**	**15**	**16**	**3**	**2**	**118**	**0.8%**
Manitoba	24	5	16	11	23	17	15	15	15	6	-	147	0.9%
Ontario	**923**	**466**	**534**	**612**	**620**	**712**	**697**	**617**	**580**	**344**	**106**	**6,211**	**40.0%**
Quebec	768	408	473	441	497	535	564	550	493	323	102	5,154	33.2%
New Brunswick	**12**	**7**	**14**	**13**	**12**	**11**	**17**	**15**	**16**	**6**	**2**	**125**	**0.8%**
PEI & Nova Scotia	29	15	18	14	23	27	34	37	29	16	5	247	1.6%
Newfoundland	**6**	**4**	**5**	**7**	**6**	**7**	**5**	**13**	**5**	**6**	**-**	**64**	**0.4%**
Total	2,225	1,153	1,374	1,415	1,533	1,711	1,735	1,678	1,509	919	276	15,528	100.0%

*Cases diagnosed by December 31, 1997 and reported to LCDC by February 27, 1998
Source: Health Canada, HIV and AIDS in Canada, Surveillance report to December 31, 1997

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Table 2.2.1B

Rates and rate ratios for incidence of reported AIDS cases by province,1997

Province/Territory:	Number of AIDS cases	Population 1996	Rate per 100,000	Rate Ratio	Rate Ratio Classification*
British Columbia	**19**	**3,933,300**	**0.5**	**0.5**	**Lowest**
Alberta	40	2,847,000	1.4	1.5	High
Prairie/Territories	**2**	**2,267,800**	**0.1**	**0.1**	**Lowest**
Ontario	106	11,407,700	0.9	1.0	Average
Quebec	**102**	**7,419,900**	**1.4**	**1.5**	**High**
Atlantic	7	2,410,700	0.3	0.3	Lowest
Total Canada	**276**	**30,286,400**	**0.9**	**1.0**	

*Rate ratio classification lowest 0-0.53 low 0.54-0.81 average 0.82-1.23 high 1.24-1.86 and highest 1.87 or higher
Source Health Canada Surveillance report to December 31 1997 Population counts taken from Statistics Canada CANSIM Matrices 6367-6379

As of December 31, 1997, 925 cases of AIDS have been diagnosed and reported in Alberta since the beginning of the epidemic. Of this number, 918 were adults and seven were children. Males accounted for 94.5 per cent (874) of all cases, females 5.5 per cent (51). Just over 80 per cent of these cases occurred among individuals reporting homosexual or bisexual sexual activity.

The number of reported AIDS cases in Alberta has been declining for the past three years. However, AIDS is only the late manifestation of HIV infection and the number of HIV cases in the province has remained fairly stable over the past three years. Improved therapies are assumed to be responsible for the increasing the delay between infection with HIV and a diagnosis of AIDS. But "reporter fatigue" has also been suggested as a possible cause for the declining number of reported cases.

The following tables and figures provide more detail on AIDS in Alberta. The numbers in these tables may differ slightly from previous tables containing data provided by LCDC. Alberta Health counts all cases for Alberta residents reported to them. LCDC has the benefit of seeing all cases reported across the country. They are better able to remove

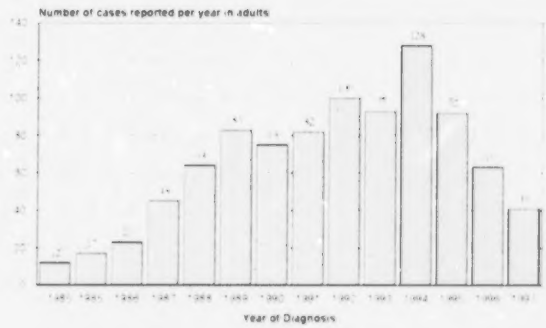
duplicate records and may reassign cases to other provinces depending on where an individual was first diagnosed and reported. As a result, LCDC numbers may vary slightly from provincial records.

Table 2.2.2 shows the annual and cumulative incidence of AIDS cases in adults in Alberta by the year of diagnosis. Of the 918 adult cases in the province, 871 were male and 47 female.

Figure 2.2.1 shows that the number of AIDS cases in adults, reported by year of diagnosis, has been declining in recent years. In 1997, 41 cases were reported, down from a high of 128 cases in 1994. The trend appears to be real but recent data may be underestimated due to reporting delays.

Figure 2.2.1

Incidence of reported AIDS cases in adults by year of diagnosis, Alberta, to December 1997



Source: Bloodborne Pathogens Database, Alberta Health

Table 2.2.2

Cumulative incidence of reported AIDS cases in adults by year of diagnosis and gender, Alberta, to December 1997

	Males >= 15 years:		Females >= 15 years:		Total >= 15 years:	
Year of diagnosis:	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total
prior to 1985	**12**	**12**	**-**	**-**	**12**	**12**
1985	17	29	-	-	17	29
1986	**21**	**50**	**2**	**2**	**23**	**52**
1987	40	90	5	7	45	97
1988	**63**	**153**	**1**	**8**	**64**	**161**
1989	79	232	4	12	83	244
1990	**75**	**307**	**-**	**12**	**75**	**319**
1991	78	385	4	16	82	401
1992	**95**	**480**	**5**	**21**	**100**	**501**
1993	88	568	5	26	93	594
1994	**121**	**689**	**7**	**33**	**128**	**722**
1995	88	777	4	37	92	814
1996	**58**	**835**	**5**	**42**	**63**	**877**
1997	36	871	5	47	41	918

Source: Bloodborne Pathogens Database, Alberta Health

Table 2.2.3 shows there were seven cases (three males and four females) of AIDS reported in children in Alberta, since the beginning of the epidemic.

Table 2.2.3

Cumulative incidence of reported AIDS cases in children by year of diagnosis and gender, Alberta, to December 1997

Year of AIDS diagnosis:	Males < 15 years:		Females < 15 years:		Total < 15 years:	
	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total
prior to 1985	1	1	1	1	2	2
1988	-	1	1	2	1	3
1994	1	2	2	4	3	6
1997	1	3	-	4	1	7

Source: Bloodborne Pathogens Database, Alberta Health

Table 2.2.4 provides the rate of reported AIDS cases per 100,000 population for adults in Alberta, by gender and year of diagnosis. There was a steady increase in the number of cases from the beginning of the epidemic through to 1988. Between 1989 and 1993, the rates remained relatively stable and then peaked in 1994 to 6.24 per 100,000.

When broken down by gender, the rate for males was an all time high of 11.97. The rate for females in that year, and in all other years, has been 0.67 or lower per 100,000. Since 1994, the rate has been steadily declining to 1.9 (3.4 for males and 0.46 for females) per 100,000 in 1997. However, as noted earlier, reporting delays may be causing an underestimation of cases in recent years.

Table 2.2.4

Rates of reported AIDS cases per 100,000 population in adults by year of diagnosis and gender, Alberta, 1985 to 1997

Year of AIDS diagnosis:	Males >= 15 years:	Females >= 15 years:	Total >=15 years:
	Rate per 100,000	Rate per 100,000	Rate per 100,000
1985	1.83	-	0.92
1986	2.25	0.21	1.23
1987	4.26	0.53	2.39
1988	6.63	0.10	3.36
1989	8.23	0.42	4.31
1990	7.65	-	3.82
1991	7.85	0.40	4.11
1992	9.43	0.49	4.94
1993	8.73	0.49	4.56
1994	11.97	0.67	6.24
1995	8.63	0.38	4.44
1996	5.56	0.47	2.98
1997	3.38	0.46	1.90

Source: Bloodborne Pathogens Database, Alberta Health. Population counts used to calculate rates were taken from the following sources: 1985, Statistics Canada; 1986 to 1996, AHCIP registration database; and 1997 population from the Surveillance branch, Alberta Health.

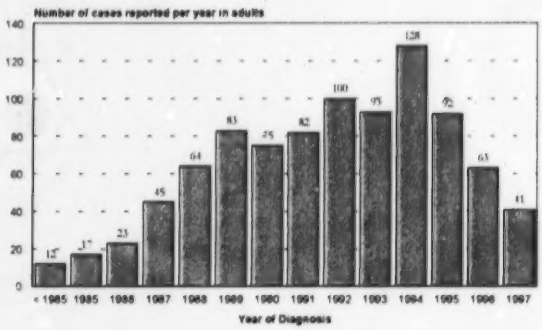
duplicate records and may reassign cases to other provinces depending on where an individual was first diagnosed and reported. As a result, LCDC numbers may vary slightly from provincial records.

Table 2.2.2 shows the annual and cumulative incidence of AIDS cases in adults in Alberta, by the year of diagnosis. Of the 918 adult cases in the province, 871 were male and 47 female.

Figure 2.2.1 shows that the number of AIDS cases in adults, reported by year of diagnosis, has been declining in recent years. In 1997, 41 cases were reported, down from a high of 128 cases in 1994. The trend appears to be real but recent data may be underestimated due to reporting delays.

Figure 2.2.1

Incidence of reported AIDS cases in adults by year of diagnosis, Alberta, to December 1997



Source: Bloodborne Pathogens Database, Alberta Health.

Table 2.2.2

Cumulative incidence of reported AIDS cases in adults by year of diagnosis and gender, Alberta, to December 1997

	Males >= 15 years:		Females >= 15 years:		Total >= 15 years:	
Year of diagnosis:	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1985	17	29	-	-	17	29
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1987	40	90	5	7	45	97
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1989	79	232	4	12	83	244
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1991	78	385	4	16	82	401
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1993	88	568	5	26	93	594
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1995	88	777	4	37	92	814
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1997	36	871	5	47	41	918

Source: Bloodborne Pathogens Database, Alberta Health.

Table 2.2.3 shows there were seven cases (three males and four females) of AIDS reported in children in Alberta, since the beginning of the epidemic.

Table 2.2.3

Cumulative incidence of reported AIDS cases in children by year of diagnosis and gender, Alberta, to December 1997

Year of AIDS diagnosis:	Males < 15 years:		Females < 15 years:		Total < 15 years:	
	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total	Number of cases reported	Cumulative total
[illegible]	1	1	1	1	2	2
1988	-	1	1	2	1	3
[illegible]	1	2	2	4	3	6
1997	1	3	-	4	1	7

Source: Bloodborne Pathogens Database, Alberta Health.

Table 2.2.4 provides the rate of reported AIDS cases per 100,000 population for adults in Alberta, by gender and year of diagnosis. There was a steady increase in the number of cases from the beginning of the epidemic through to 1988. Between 1989 and 1993, the rates remained relatively stable and then peaked in 1994 to 6.24 per 100,000.

When broken down by gender, the rate for males was an all time high of 11.97. The rate for females in that year, and in all other years, has been 0.67 or lower per 100,000. Since 1994, the rate has been steadily declining to 1.9 (3.4 for males and 0.46 for females) per 100,000 in 1997. However, as noted earlier, reporting delays may be causing an underestimation of cases in recent years.

Table 2.2.4

Rates of reported AIDS cases per 100,000 population in adults by year of diagnosis and gender, Alberta, 1985 to 1997

Year of AIDS diagnosis:	Males >= 15 years:	Females >= 15 years:	Total >=15 years:
	Rate per 100,000	Rate per 100,000	Rate per 100,000
[illegible]	[illegible]	[illegible]	[illegible]
1986	2.25	0.21	1.23
[illegible]	[illegible]	[illegible]	[illegible]
1988	6.63	0.10	3.36
[illegible]	[illegible]	[illegible]	[illegible]
1990	7.65	-	3.82
[illegible]	[illegible]	[illegible]	[illegible]
1992	9.43	0.49	4.94
[illegible]	[illegible]	[illegible]	[illegible]
1994	11.97	0.67	6.24
[illegible]	[illegible]	[illegible]	[illegible]
1996	5.56	0.47	2.98
[illegible]	[illegible]	[illegible]	[illegible]

Source: Bloodborne Pathogens Database, Alberta Health. Population counts used to calculate rates were taken from the following sources: 1985, Statistics Canada; 1986 to 1996, AHCIP registration database; and 1997, population from the Surveillance branch, Alberta Health.

Figure 2.2.2 illustrates the decline in rates of reported AIDS cases in Alberta since 1994.

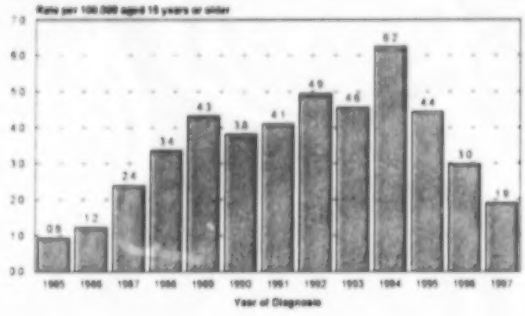
Table 2.2.5 shows the case fatality rate for reported AIDS cases in Alberta by year and gender. Case fatality is a ratio of the number of deaths (from AIDS related causes) over the number of cases. These rates are probably an underestimate given under-reporting and delayed reporting for AIDS cases and possible unknown deaths if they occurred outside of Alberta.

The case fatality rate for females has been 100 per cent for all cases diagnosed before 1992. But the rate in recent years has been much lower at 25 per cent in 1995, 20 per cent in 1996, and no deaths for cases diagnosed in 1997. However, these rates should be interpreted with caution given the small number of cases.

The case fatality rate for males is 100 per cent for cases diagnosed prior to 1987, but the rates fall off steadily since that time to 29 per cent in 1996 and 10 per cent in 1997. The decline in rates may be due in part to improved therapy. But as noted earlier, estimates for the number of cases and deaths in recent years may be low due to reporting delays.

Figure 2.2.2

Rate of reported AIDS cases per 100,000 population in adults by year of diagnosis, Alberta, 1985 to 1997



Source: Bloodborne Pathogens Database, Alberta Health.

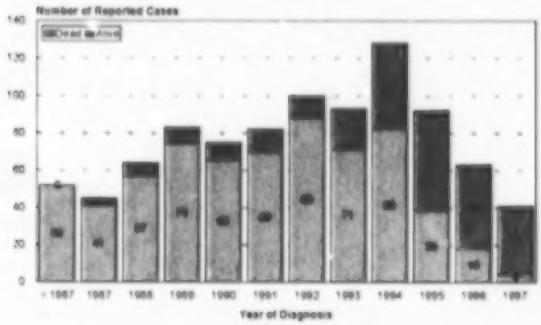
Table 2.2.5

Number of reported AIDS cases, known deaths and case fatality in adults by year of diagnosis and gender, Alberta, to December 1997

Year of AIDS diagnosis:	Females >= 15 years: Number of cases reported	Females >= 15 years: Number of known deaths among those cases	Females >= 15 years: Case fatality	Males >= 15 years: Number of cases reported	Males >= 15 years: Number of known deaths among those cases	Males >= 15 years: Case fatality	Total: Number of cases reported	Total: Number of known deaths among those cases	Total: Case fatality
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1985	-	-	NA	17	17	1.00	17	17	1.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1987	5	5	1.00	40	36	0.90	45	41	0.91
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1989	4	4	1.00	79	70	0.89	83	74	0.89
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1991	4	4	1.00	78	65	0.83	82	69	0.84
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1993	5	4	0.80	88	67	0.76	93	71	0.76
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1995	4	1	0.25	88	37	0.42	92	38	0.41
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1997	5	-	-	36	4	0.11	41	4	0.10
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: Bloodborne Pathogens Database, Alberta Health.

Figure 2.2.3
Number of reported adult AIDS cases dead and alive by year of diagnosis, Alberta, early 1980s to December 1997



Source: Bloodborne Pathogens Database, Alberta Health and Alberta Vital Statistics.

Prevalence is a measure of reported AIDS cases minus all deaths that have been reported among that population. This provides an estimate of the burden of this illness on the health system. If the number of reported AIDS cases and deaths were complete, AIDS prevalence in adults in Alberta at the end of 1997 would be a maximum of 259 cases.

Figure 2.2.3 illustrates the number of AIDS related deaths among reported AIDS cases in Alberta, by year of diagnosis.

Figure 2.2.2 illustrates the decline in rates of reported AIDS cases in Alberta since 1994.

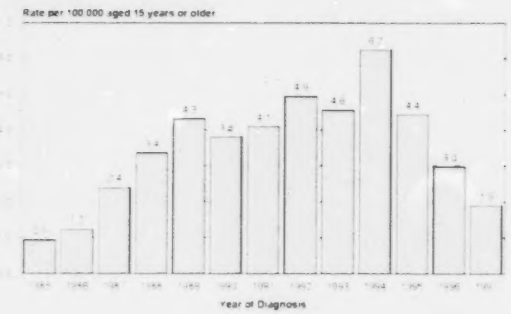
Table 2.2.5 shows the case fatality rate for reported AIDS cases in Alberta by year and gender. Case fatality is a ratio of the number of deaths (from AIDS related causes) over the number of cases. These rates are probably an underestimate given under-reporting and delayed reporting for AIDS cases and possible unknown deaths if they occurred outside of Alberta.

The case fatality rate for females has been 100 per cent for all cases diagnosed before 1992. But the rate in recent years has been much lower at 25 per cent in 1995, 20 per cent in 1996, and no deaths for cases diagnosed in 1997. However, these rates should be interpreted with caution given the small number of cases.

The case fatality rate for males is 100 per cent for cases diagnosed prior to 1987, but the rates fall off steadily since that time to 29 per cent in 1996 and 10 per cent in 1997. The decline in rates may be due in part to improved therapy. But as noted earlier, estimates for the number of cases and deaths in recent years may be low due to reporting delays.

Figure 2.2.2

Rate of reported AIDS cases per 100,000 population in adults by year of diagnosis, Alberta, 1985 to 1997



Source Bloodborne Pathogens Database Alberta Health

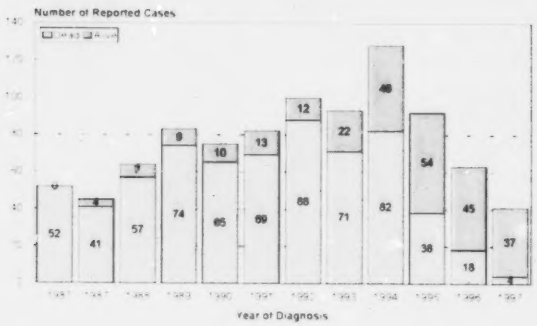
Table 2.2.5

Number of reported AIDS cases, known deaths and case fatality in adults by year of diagnosis and gender, Alberta, to December 1997

	Females >= 15 years:			Males >= 15 years:			Total:		
Year of AIDS diagnosis:	Number of cases reported	Number of known deaths among those cases	Case fatality	Number of cases reported	Number of known deaths among those cases	Case fatality	Number of cases reported	Number of known deaths among those cases	Case fatality
prior to 1985	**-**	**-**	**NA**	**12**	**12**	**1.00**	**12**	**12**	**1.00**
1985	-	-	NA	17	17	1.00	17	17	1.00
1986	**2**	**2**	**1.00**	**21**	**21**	**1.00**	**23**	**23**	**1.00**
1987	5	5	1.00	40	36	0.90	45	41	0.91
1988	**1**	**1**	**1.00**	**63**	**56**	**0.89**	**64**	**57**	**0.89**
1989	4	4	1.00	79	70	0.89	83	74	0.89
1990	**-**	**-**	**NA**	**75**	**65**	**0.87**	**75**	**65**	**0.87**
1991	4	4	1.00	78	65	0.83	82	69	0.84
1992	**5**	**5**	**1.00**	**95**	**83**	**0.87**	**100**	**88**	**0.88**
1993	5	4	0.80	88	67	0.76	93	71	0.76
1994	**7**	**6**	**0.86**	**121**	**76**	**0.63**	**128**	**82**	**0.64**
1995	4	1	0.25	88	37	0.42	92	38	0.41
1996	**5**	**1**	**0.20**	**58**	**17**	**0.29**	**63**	**18**	**0.29**
1997	5	-	-	36	4	0.11	41	4	0.10
Total	**47**	**33**	**0.70**	**871**	**626**	**0.72**	**918**	**659**	**0.72**

Source Bloodborne Pathogens Database Alberta Health

Figure 2.2.3
Number of reported adult AIDS cases dead and alive by year of diagnosis, Alberta, early 1980s to December 1997



Source Bloodborne Pathogens Database Alberta Health and Alberta Vital Statistics

Prevalence is a measure of reported AIDS cases minus all deaths that have been reported among that population. This provides an estimate of the burden of this illness on the health system. If the number of reported AIDS cases and deaths were complete, AIDS prevalence in adults in Alberta at the end of 1997 would be a maximum of 259 cases.

Figure 2.2.3 illustrates the number of AIDS related deaths among reported AIDS cases in Alberta, by year of diagnosis.

Table 2.2.6 illustrates the distribution of reported AIDS cases, by year of diagnosis and age category at the time of diagnosis. The majority of cases (43 per cent) are in the 30 to 39 age category, another 24 per cent are in the 40 to 49 age category, and 15 per cent are in the 50 and older age group.

Table 2.2.6

Number of reported AIDS cases by year of diagnosis and age at time of diagnosis, Alberta, to December 1997

Year of AIDS diagnosis:	Age category at time of diagnosis:									
	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
prior to 1985	1	2	-	-	-	2	6	2	2	15
1985	-	-	-	-	-	5	4	3	5	17
1986	-	-	-	-	1	7	7	4	4	23
1987	-	-	-	-		15	13	9	8	45
1988		1	-	-	-	16	20	17	11	65
1989	-	-	-	-	-	15	32	19	17	83
1990	-	-	-	-	-	18	31	15	11	75
1991	-	-	-	-	-	13	32	23	14	82
1992	-	-	-	-	-	14	49	26	11	100
1993	-	-	-	-	-	14	46	22	11	93
1994	1	-	1	1	-	16	69	31	12	131
1995	-	-	-	-	-	11	43	22	16	92
1996	-	-	-	-	-	7	30	17	9	63
1997	-	-	-	-	1	6	16	9	9	41
Total	2	3	1	1	2	159	398	219	140	925

Source: Bloodborne Pathogens Database, Alberta Health

Table 2.2.7 illustrates the distribution of cases, by place of residence at the time of diagnosis. Calgary was given as the place of residence for 57 per cent of the cases, 32.5 percent for Edmonton, and 10.5 per cent said that they lived in urban and rural areas outside the two major cities.

Table 2.2.7

Cumulative incidence and percentage of reported AIDS cases by region of residence at time of diagnosis, Alberta, to December 1997

Region of residence at time of reporting:	Number of cases reported	Percentage of total
Edmonton	**301**	**32.5%**
Calgary	527	57.0%
Northern Alberta (Red Deer and north)	**46**	**5.0%**
Southern Alberta (south of Red Deer)	51	5.5%
Total	**925**	**100%**

Source: Bloodborne Pathogens Database, Alberta Health

The distribution of AIDS cases by exposure category is shown in Table 2.2.8. In adult males, over 85 per cent of cases reported a risk factor of MSM (men having sex with men), four per cent reported injection drug use and another four per cent heterosexual sexual activity. Just over half of female cases reported a risk factor of heterosexual sexual activity, 25.5 per cent injection drug use and 19.1 per cent blood transfusions.

Table 2.2.8

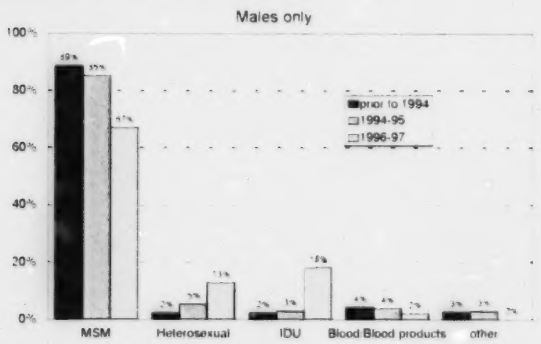
Cumulative incidence and percentage of reported AIDS cases for adults by exposure category and gender, Alberta, to December 1997

	Number of adult cases reported			Percentage of total adult cases reported		
Exposure category:	Males	Females	Total	Males	Females	Total
MSM	**744**		**744**	**85.4%**		**81.0%**
Heterosexual	36	25	61	4.1%	53.2%	6.6%
Injection drug use	**36**	**12**	**48**	**4.1%**	**25.5%**	**5.2%**
Blood transfusion	18	9	27	2.1%	19.1%	2.9%
Blood products/Haemophilia	**16**		**16**	**1.8%**		**1.7%**
other/unknown	21	1	22	2.4%	2.1%	2.4%
Total	**871**	**47**	**918**	**100%**	**100%**	**100%**

Source: Bloodborne Pathogens Database, Alberta Health

Figure 2.2.4

Percentage of reported AIDS cases in adults by exposure category and year of diagnosis, Alberta, to December 1997



Source: Bloodborne Pathogens Database, Alberta Health

Figure 2.2.4 shows the changes in the distribution of male AIDS cases by exposure category over time. The percentage of cases who reported a risk factor of MSM remains very high but is declining over time. At the same time, risk factors of heterosexual sexual activity and injection drug use are increasing.

Table 2.2.6 illustrates the distribution of reported AIDS cases, by year of diagnosis and age category at the time of diagnosis. The majority of cases (43 per cent) are in the 30 to 39 age category, another 24 per cent are in the 40 to 49 age category, and 15 per cent are in the 50 and older age group.

Table 2.2.6

Number of reported AIDS cases by year of diagnosis and age at time of diagnosis, Alberta, to December 1997

Year of AIDS diagnosis:	Age category at time of diagnosis:									
	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
[illegible]	[illegible]									
1985	-	-	-	-	-	5	4	3	5	17
[illegible]	[illegible]									
1987	-	-	-	-		15	13	9	8	45
[illegible]	[illegible]									
1989	-	-	-	-	-	15	32	19	17	83
[illegible]	[illegible]									
1991	-	-	-	-	-	13	32	23	14	82
[illegible]	[illegible]									
1993	-	-	-	-	-	14	46	22	11	93
[illegible]	[illegible]									
1995	-	-	-	-	-	11	43	22	16	92
[illegible]	[illegible]									
1997	-	-	-	-	1	6	16	9	9	41
[illegible]	[illegible]									

Source: Bloodborne Pathogens Database, Alberta Health.

Table 2.2.7 illustrates the distribution of cases, by place of residence at the time of diagnosis. Calgary was given as the place of residence for 57 per cent of the cases, 32.5 percent for Edmonton, and 10.5 per cent said that they lived in urban and rural areas outside the two major cities.

Table 2.2.7

Cumulative incidence and percentage of reported AIDS cases by region of residence at time of diagnosis, Alberta, to December 1997

Region of residence at time of reporting:	Number of cases reported	Percentage of total
[illegible]		
Calgary	527	57.0%
[illegible]		
Southern Alberta (south of Red Deer)	51	5.5%
[illegible]		

Source: Bloodborne Pathogens Database, Alberta Health.

The distribution of AIDS cases by exposure category is shown in Table 2.2.8. In adult males, over 85 per cent of cases reported a risk factor of MSM (men having sex with men), four per cent reported injection drug use and another four per cent heterosexual sexual activity. Just over half of female cases reported a risk factor of heterosexual sexual activity, 25.5 per cent injection drug use and 19.1 per cent blood transfusions.

Table 2.2.8

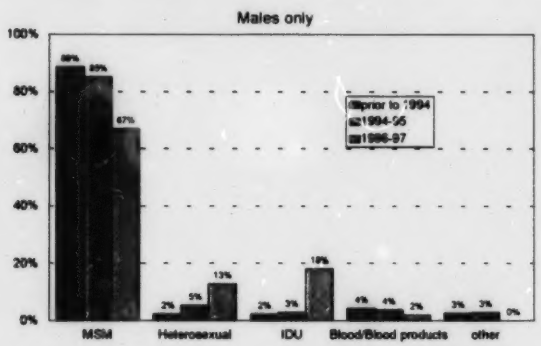
Cumulative incidence and percentage of reported AIDS cases for adults by exposure category and gender, Alberta, to December 1997

	Number of adult cases reported			Percentage of total adult cases reported		
Exposure category:	Males	Females	Total	Males	Females	Total
[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
Heterosexual	36	25	61	4.1%	53.2%	6.6%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Blood transfusion	18	9	27	2.1%	19.1%	2.9%
[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
other/unknown	21	1	22	2.4%	2.1%	2.4%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: Bloodborne Pathogens Database, Alberta Health.

Figure 2.2.4

Percentage of reported AIDS cases in adults by exposure category and year of diagnosis, Alberta, to December 1997



Source: Bloodborne Pathogens Database, Alberta Health.

Figure 2.2.4 shows the changes in the distribution of male AIDS cases by exposure category over time. The percentage of cases who reported a risk factor of MSM remains very high but is declining over time. At the same time, risk factors of heterosexual sexual activity and injection drug use are increasing.

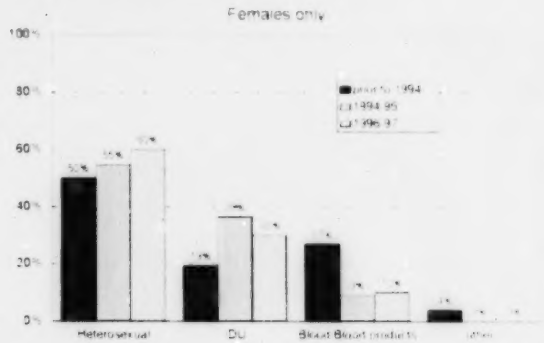
Figure 2.2.5 shows changes in reported risk factors among females over time. Heterosexual sexual activity remains the most frequently reported risk factor among females: IDU ranks second. Infection from blood or blood products has declined to one case each in 1994-95 and 1996-97.

It should be noted that an AIDS diagnosis often occurs several years after risk factor exposure. Observation of risk factors reported for HIV infection is more likely to provide information on risk behaviours that should be addressed in the current environment.

Table 2.2.9 illustrates the main presenting conditions associated with an AIDS diagnosis. The majority (over 44 per cent) of cases present with *Pneumocystis carinii* pneumonia (PCP). The next most frequently seen conditions are 'other opportunistic infections' and Kaposi's sarcoma (KS).

Figure 2.2.5

Percentage of reported AIDS cases in adults by exposure category and year of diagnosis, Alberta, to December 1997



Source Bloodborne Pathogens Database Alberta Health

Table 2.2.9

Cumulative incidence of reported AIDS cases for all ages by presenting condition, Alberta, to December 1997

Presenting condition:	Number of cases	% cases
***Pneumocystis carinii* pneumonia (PCP)**	408	44.1%
Kaposi's sarcoma (KS)	110	11.9%
PCP & KS	3	0.3%
Other opportunistic infections	250	27.0%
Other malignancies	47	5.1%
HIV- wasting syndrome	68	7.4%
HIV - encephalitis	36	3.9%
other/unknown	3	0.3%
Total	925	100%

Source Bloodborne Pathogens Database, Alberta Health

Figure 2.2.5 shows changes in reported risk factors among females over time. Heterosexual sexual activity remains the most frequently reported risk factor among females; IDU ranks second. Infection from blood or blood products has declined to one case each in 1994-95 and 1996-97.

It should be noted that an AIDS diagnosis often occurs several years after risk factor exposure. Observation of risk factors reported for HIV infection is more likely to provide information on risk behaviours that should be addressed in the current environment.

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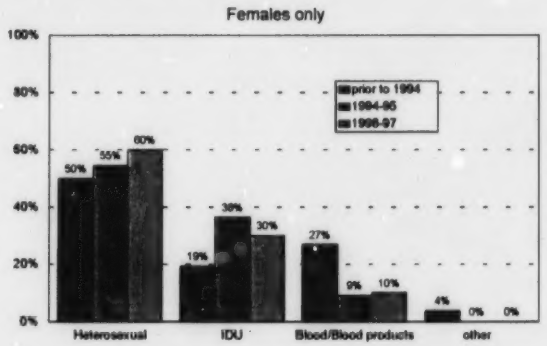

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HIV- wasting syndrome	68	7.4%
other/unknown	3	0.3%

Source: Bloodborne Pathogens Database, Alberta Health.

3.1 HIV Surveillance

HIV surveillance is critical to the monitoring of the HIV/AIDS epidemic because an HIV diagnosis is usually closer to the time of infection than the AIDS diagnosis. This is becoming even more evident as new therapeutic treatments are allowing people with AIDS to live longer. Several years can elapse between HIV infection and an AIDS diagnosis.

Surveillance allows us to identify emerging trends that can help:

- plan for current and future healthcare,
- support needs, intervention and prevention programs, and
- guide policy development.

The following section provides details of HIV positive tests in Alberta by age, gender, exposure category, and site of testing and compares these findings with other regions in Canada.

LCDC reported a total of 39,083[1] HIV positive tests (with duplicates removed to the degree possible) in Canada between 1985 and 1996. This figure includes 32,056 males, 4,163 females and 2,868 cases with no reported gender. An additional 1,966 positive tests were reported in 1997, but this figure doesn't include Quebec data, which were not available at time of printing.

Figure 3.2.1 shows that between November 1, 1985, and December 31, 1996, Alberta accounted for 7.6 per cent (7.7 per cent males and 7.1 per cent females) of the total HIV positive tests reported to LCDC, less than the province's proportion of the overall Canadian population for that same period (9.3 per cent).

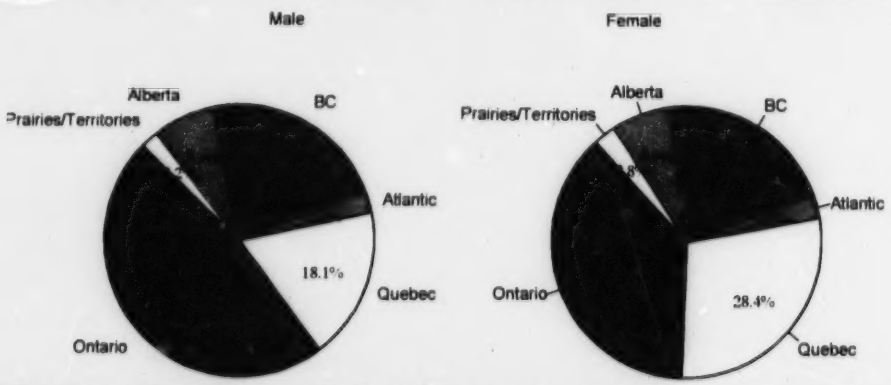
Ontario accounted for 47.3 per cent of the cumulative HIV positive tests in males and 37.6 per cent in females reported in Canada to the end of 1996. It accounted for approximately 38 per cent of the total Canadian population over that same period. These percentages do not include 2,868 positive tests with no reported gender.

Alberta ranked fourth highest in the country in the number of HIV positive tests, after Ontario, Quebec and British Columbia. However, the number of actual cases of HIV in the province is unknown and may be underestimated compared to other jurisdictions where HIV reporting is mandatory. On the other hand, there are probably undetected duplicates in the Alberta records. Mandatory reporting of HIV cases in Alberta, effective May 1, 1998, will improve the quality of data collected.

The number of positive HIV tests reported has been decreasing slightly in the past few years. Prior to 1995, the annual average was 3,318. This dropped to 3,070 in 1995, to 2,838 in 1996 and to 1,966 in 1997. It should be noted that 1997 data do not include Quebec statistics.

Figure 3.2.1

Cumulative percentage of HIV positive tests by region and gender in Canada, 1985 to 1997



1This number reflects the number of positive tests rather than the actual number of cases of HIV reported to LCDC. Duplicate tests have been removed to the degree possible but this process has varied across regions and over time. In addition, this figure does not include data from Quebec for 1997.

The percentage of positive tests in each province or territory has changed over time. Figure 3.3.2 shows that in 1996, Ontario accounted for 38.4 per cent of all positive tests in Canada, down from 45 per cent in previous years. Quebec and British Columbia each accounted for on quarter of positive tests in 1996, up slightly from previous years. Alberta rates have remained relatively stable at about six to seven per cent of all positive tests in Canada. Percentages could not be calculated for 1997 due to missing data from Quebec.

Figure 3.2.2

Percentage of HIV positive tests by region of Canada, 1985 to 1994, 1995 and 1996

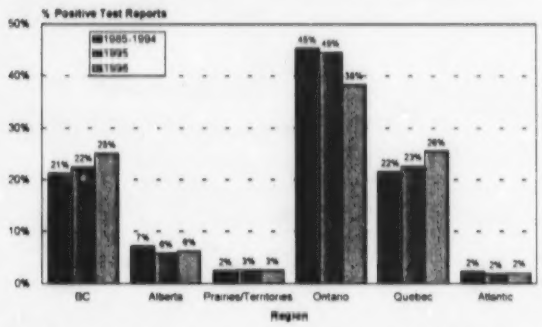


Table 3.2.1 shows the rates and rate ratios for HIV positive tests by jurisdiction in Canada for 1996. The rate ratio compares individual provincial rates to the overall Canadian rate. The rate ratio for Alberta is among the lowest in the country. British Columbia ranks highest followed by Ontario and Quebec. Rates could not be calculated for 1997 due to missing data from Quebec.

Table 3.2.1

Rates and rate ratios for incidence of positive HIV tests by province, 1996

Province/Territory:	Number of HIV positive tests	Population 1996	Rate per 100,000	Rate Ratio	Rate Ratio Classification*
[illegible]	713	[illegible]	18.5	1.95	Highest
Alberta	178	2,793,300	6.4	0.67	Low
[illegible]	73	[illegible]	3.2	0.34	Lowest
Ontario	1,091	11,258,400	9.7	1.02	Average
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Atlantic	56	2,413,600	2.3	0.25	Lowest
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

* Rate ratio classification: lowest 0-0.53, low 0.54-0.81, average 0.82-1.23, high 1.24-1.86, and highest 1.87 or higher.
Source: Health Canada. HIV and AIDS in Canada: Surveillance report for the period 1985-1997. Division of HIV/AIDS Surveillance, Bureau of HIV/AIDS, STD and TB, LCDA, Health Canada, 1998.
Population counts taken from Statistics Canada, CANSIM, Matrices 6367-6379.

3.2 Current Status Of The HIV Epidemic

The following section provides details of HIV positive tests in Alberta by age, gender, exposure category, and site of testing and compares these findings with other regions in Canada.

LCDC reported a total of 39,083[1] HIV positive tests (with duplicates removed to the degree possible) in Canada between 1985 and 1996. This figure includes 32,056 males, 4,163 females and 2,868 cases with no reported gender. An additional 1,966 positive tests were reported in 1997, but this figure doesn't include Quebec data, which were not available at time of printing.

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Ontario accounted for 47.3 per cent of the cumulative HIV positive tests in males and 37.6 per cent in females reported in Canada to the end of 1996. It accounted for approximately 38 per cent of the total Canadian population over that same period. These percentages do not include 2,868 positive tests with no reported gender.

Alberta ranked fourth highest in the country in the number of HIV positive tests, after Ontario, Quebec and British Columbia. However, the number of actual cases of HIV in the province is unknown and may be underestimated compared to other jurisdictions where HIV reporting is mandatory. On the other hand, there are probably undetected duplicates in the Alberta records. Mandatory reporting of HIV cases in Alberta, effective May 1, 1998, will improve the quality of data collected.

The number of positive HIV tests reported has been decreasing slightly in the past few years. Prior to 1995, the annual average was 3,318. This dropped to 3,070 in 1995, to 2,838 in 1996 and to 1,966 in 1997. It should be noted that 1997 data do not include Quebec statistics.

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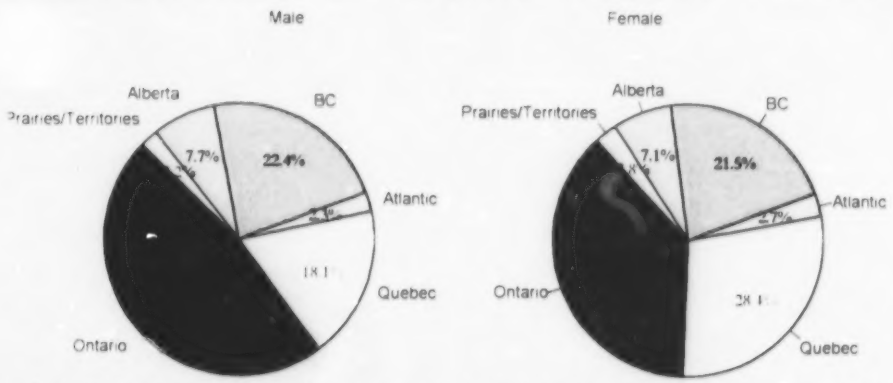
Cumulative percentage of HIV positive tests by region and gender in Canada, 1985 to 1997



1This number reflects the number of positive tests rather than the actual number of cases of HIV reported to LCDC. Duplicate tests have been removed to the degree possible but this process has varied across regions and over time. In addition, this figure does not include data from Quebec for 1997.

The percentage of positive tests in each province or territory has changed over time. Figure 3.3.2 shows that in 1996, Ontario accounted for 38.4 per cent of all positive tests in Canada, down from 45 per cent in previous years. Quebec and British Columbia each accounted for on quarter of positive tests in 1996, up slightly from previous years. Alberta rates have remained relatively stable at about six to seven per cent of all positive tests in Canada. Percentages could not be calculated for 1997 due to missing data from Quebec.

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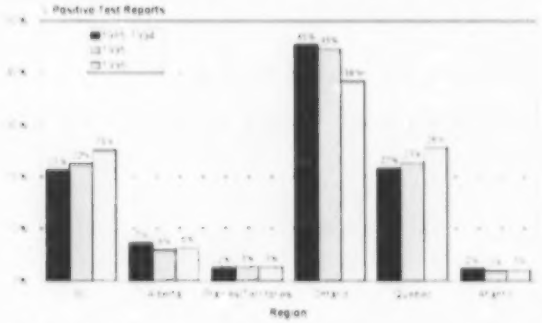

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Ontario	1,091	11,258,400	9.7	1.02	Average
Quebec	**727**	**7,388,000**	**9.8**	**1.04**	**Average**
Atlantic	56	2,413,600	2.3	0.25	Lowest
Total Canada	**2,838**	**29,969,200**	**9.5**	**1.0**	

* Rate ratio classification: lowest 0-0.53; low 0.54-0.81; average 0.82-1.23; high 1.24-1.86; and highest 1.87 or higher.
Source: Health Canada. HIV and AIDS in Canada. Surveillance report for the period 1985-1997. Division of HIV/AIDS Surveillance, Bureau of HIV/AIDS, STD and TB, LCDA, Health Canada, 1998.
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As of December 31, 1997, 2,976 HIV positive tests had been reported in Alberta. This represents all positive tests (including some duplicates) identified since testing began in Alberta in 1986. It does not reflect the full burden of the disease because only a portion of the population at risk has been tested.

Table 3.2.2 shows that over 55 per cent of the cumulative positive tests reported in Alberta by December 1997 were in persons between the ages of 20 and 39. Less than two per cent were infants (many of whom will revert to HIV negative status during the postnatal period). Males accounted for 88 per cent of all positive tests, females for 12 per cent.

Perinatal data collected by LCDC through a national, non-nominal survey of tertiary care pediatric centres across Canada estimates that the number of infants born to HIV positive mothers is higher than that reported by the provinces. LCDC says this difference occurs because provincial reports are based on positive serology results alone, whereas the data collected during the LCDC survey comes from clinical data sources that have a more active surveillance program in place. With this survey data, LCDC developed the Canadian Perinatal HIV Surveillance Program.

Table 3.2.2
Cumulative incidence of HIV positive tests by age category and gender, Alberta, 1986 to 1997

Age category:	Males	Females	Total	Percent
< 1 year			54	1.8%
1-9			5	0.2%
10-19			64	2.2%
20-29			754	25.3%
30-39			886	29.8%
40-49			415	13.9%
50+			157	5.3%
unknown			211	7.1%
not recorded**			430	14.4%
Total	2,620	356	2,976	100%
Percent	88.0%	12.0%	100%	

**Age not routinely recorded until mid-1987
Source: Bloodborne Pathogens Database, Alberta Health, 1986-1987

Table 3.2.3 presents the data from this program. The number of infants exposed nation wide by the end of 1997 was 801. The national annual number has risen in recent years from 33 in 1988 to 97 in 1996. Alberta accounts for 63 (7.9%) of these cases. These numbers do not necessarily include all infants born to HIV positive mothers, only those born to mothers who have been tested for the virus. This increase in the number of infants exposed in recent years is a reflection of the increasing number of women who are becoming HIV positive. However, it should be noted that the majority of infants exposed to HIV during the perinatal period do not remain HIV positive (sero-reversion). Most will become seronegative as the maternal antibodies are cleared from the infants'

systems. Additional testing over time is required to determine an infant's status.

A program of routine, prenatal HIV screening was introduced in Alberta in September 1998.

Table 3.2.3

Cumulative number of perinatal HIV-exposed infants by geographic region and current status, Alberta, to the end of 1997

Region	Exposed indeterminate*	Confirmed infected	Confirmed infefcted	Sero-reverted	Died of AIDS	Died/ other cause	Unknown	Total	%
Alberta	**9**	**0**	**9**	**39**	**4**	**0**	**2**	**63**	**7.9%**
Canada	65	37	146	403	106	15	29	801	100%

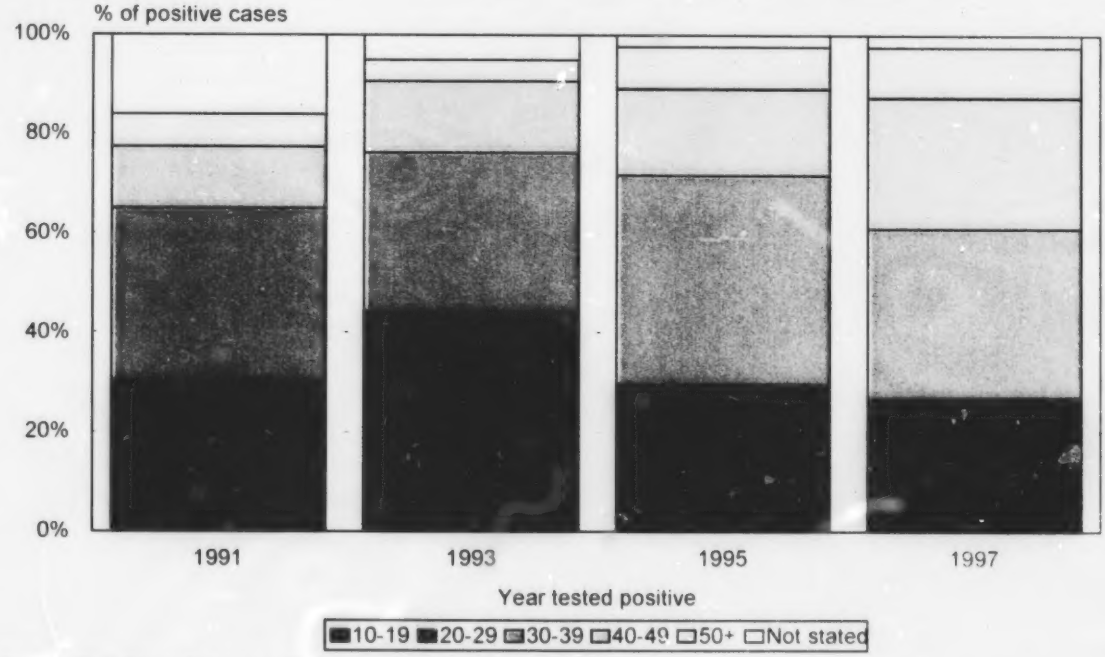
* Exposed unconfirmed (maternal status was confirmed HIV positive but infant status was unconfirmed at time of reporting)
Source: Health Canada. HIV and AIDS in Canada: Surveillance report for the period 1985-1997. Division of HIV/AIDS Surveillance, Bureau of HIV/AIDS, STD and TB, LCDC, Health Canada. 1998

Figure 3.2.3 illustrates the changes in distribution of HIV positive persons in Alberta by age category over time. This figure excludes children under the age of 10[1].

The proportion of persons 40 years and older who are testing positive for HIV is increasing over time, while the proportion of those aged 39 and younger is decreasing.

Figure 3.2.3

HIV positive tests by age category and year of diagnosis, Alberta, 1991 to 1997



Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997

1 Provincial historical data on HIV is aggregated into age categories. Infants are included in the zero to nine year age group. In order to remove infants from this graph, it was necessary to eliminate the zero to nine category.

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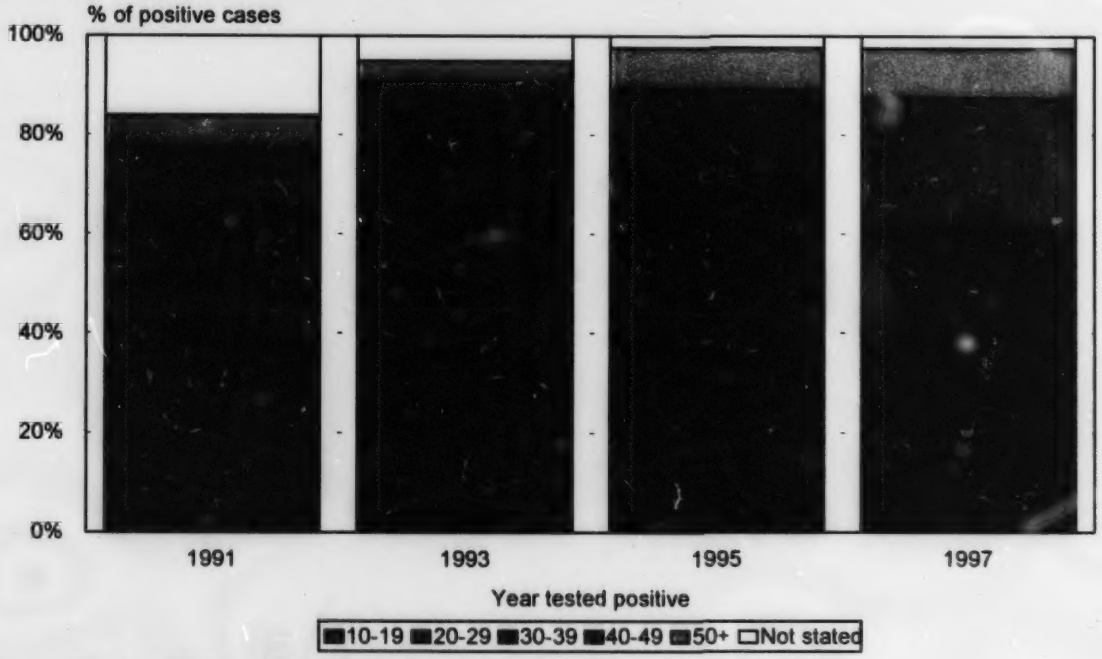


Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997.

1 Provincial historical data on HIV is aggregated into age categories. Infants are included in the zero to nine year age group. In order to remove infants from this graph, it was necessary to eliminate the zero to nine category.

Table 3.2.4 and Figure 3.2.4 show that there were 217 HIV positive tests reported in Alberta in 1997.

As in previous years, the majority of new reports in 1997 were for persons aged 20 to 39 years, but there were increases in the proportion of females aged 15 to 19 reported, and in infants born to HIV positive mothers (those cases less than one year of age). As noted earlier, the infants counted in this database reflect only that they were born to mothers who were HIV positive. The majority of infants will become seronegative.

Table 3.2.4

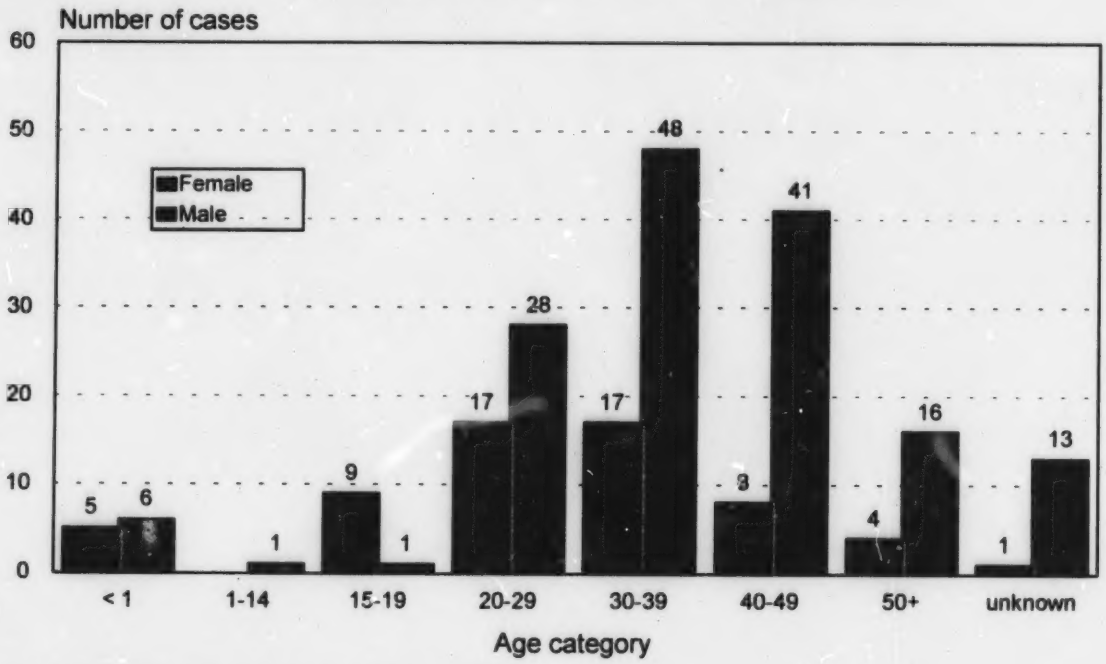
Incidence of HIV positive tests by age category and gender, Alberta, 1997

Age category:	Male	Female	Unknown	Total	Percent
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
1-14	1			1	0.5%
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
20-29	28	17		45	20.7%
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
40-49	41	8	2	51	23.5%
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
unknown	13	1		14	6.5%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Percent	71.0%	28.1%	0.9%	100%	

Source: Bloodborne Pathogens Database, Alberta Health.

Figure 3.2.4

Incidence of HIV positive tests by age category and gender, Alberta, 1997



Source: Bloodborne Pathogens Database, Alberta Health.

Table 3.2.5 and Figure 3.2.5 show that in 1997, the rate of HIV positive tests in Alberta was 11 in every 100,000 males and 4.4 in every 100,000 females (infants are excluded). The highest rates were seen in males between the ages of 20 and 49 and in females between the ages of 15 and 39.

Table 3.2.5

Rates of HIV seropositivity per 100,000 population by age category and gender, Alberta, 1997

Age category (excludes infants):	Male	Female	Total
15-19	1.0	9.2	5.0
30-39	19.5	6.8	13.1
50+	5.3	1.2	3.1

Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997. Population based AHCIP registration database using on mid-year count.

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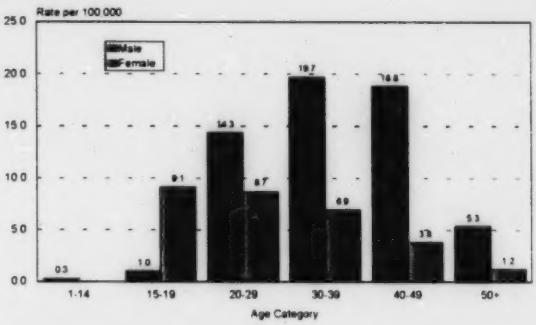
Rates of HIV seropositivity per 100,000 population by age category and gender, Alberta, 1997

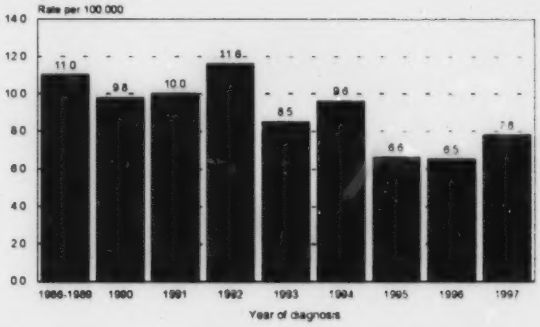


Source: Health Canada. HIV in Canada Surveillance of HIV positive test reports for the period 1985-1996. Division of HIV/AIDS Surveillance, Bureau of HIV/AIDS and STD, LCDC, Health Canada, 1997.

Figure 3.2.6 shows the rate of reported HIV seropositivity per 100,000 persons in Alberta has been somewhat lower in the past three years. The reason for this decrease is unknown but may be due in part to a more rigorous attempt to remove duplicates after 1994.

Figure 3.2.6

Rates of HIV seropositivity per 100,000 population by year of diagnosis, Alberta, 1986 to1997



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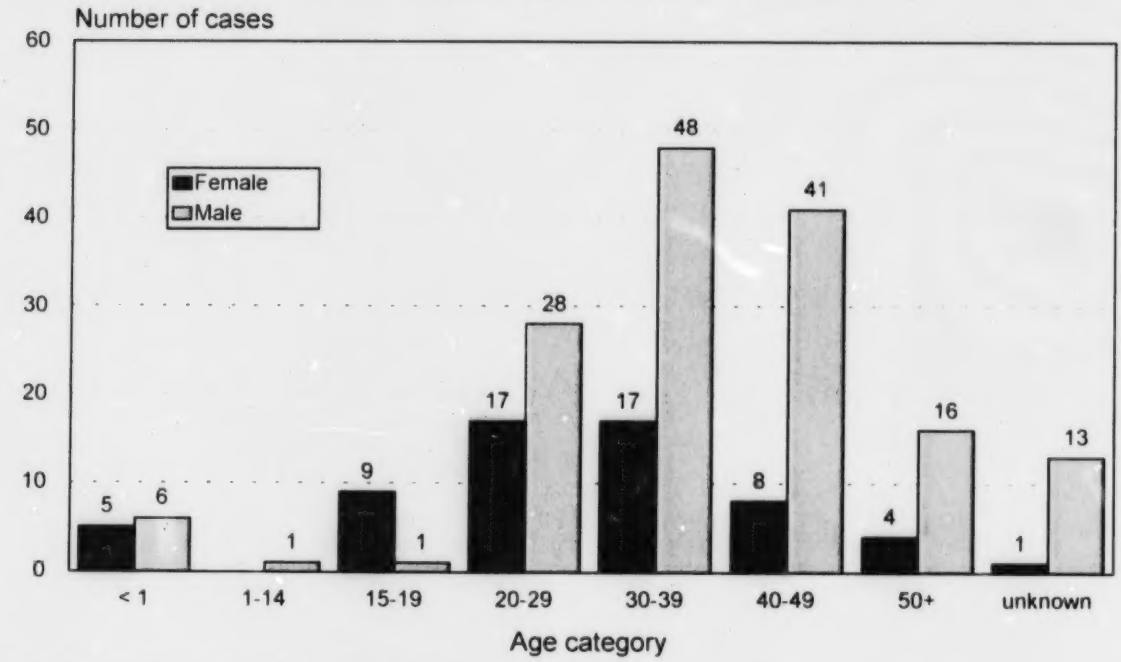
1-14	1			1	0.5%
15-19	1	9		10	4.6%
20-29	28	17		45	20.7%
30-39	48	17		65	30.0%
40-49	41	8	2	51	23.5%
50+	16	4		20	9.2%
unknown	13	1		14	6.5%
Total	154	61	2	217	100%
Percent	71.0%	28.1%	0.9%	100%	

Source Bloodborne Pathogens Database Alberta Health

Figure 3.2.4

Incidence of HIV positive tests by age category and gender, Alberta, 1997



Source Bloodborne Pathogens Database Alberta Health

Table 3.2.5 and Figure 3.2.5 show that in 1997, the rate of HIV positive tests in Alberta was 11 in every 100,000 males and 4.4 in every 100,000 females (infants are excluded). The highest rates were seen in males between the ages of 20 and 49 and in females between the ages of 15 and 39.

Table 3.2.5

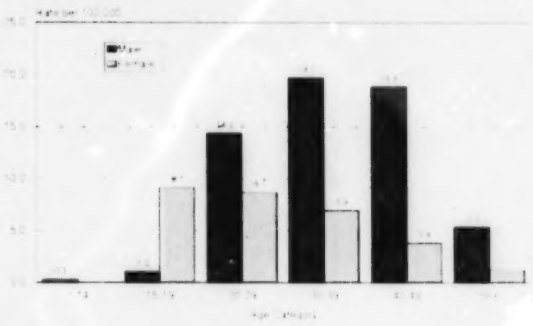
Rates of HIV seropositivity per 100,000 population by age category and gender, Alberta, 1997

Age category (excludes infants)	Male	Female	Total
1-14	**0.3**	**-**	**0.2**
15-19	1.0	9.2	5.0
20-29	**14.2**	**8.6**	**11.4**
30-39	19.5	6.8	13.1
40-49	**18.8**	**3.8**	**11.9**
50+	5.3	1.2	3.1
Total	**11.1**	**4.4**	**7.8**

Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997. Population based AHCIP registration database using on mid-year count

Figure 3.2.5

Rates of HIV seropositivity per 100,000 population by age category and gender, Alberta, 1997

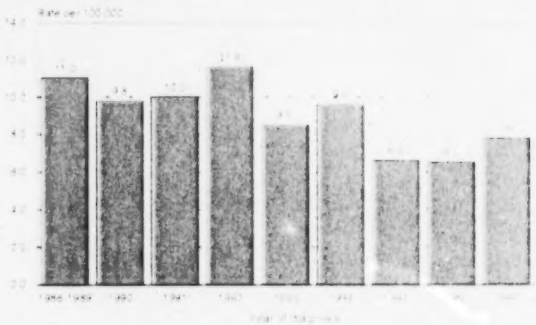


Source: Health Canada. HIV in Canada Surveillance of HIV positive test reports for the period 1985-1996. Division of HIV/AIDS Surveillance, Bureau of HIV/AIDS and STD LCDC, Health Canada, 1997

Figure 3.2.6 shows the rate of reported HIV seropositivity per 100,000 persons in Alberta has been somewhat lower in the past three years. The reason for this decrease is unknown but may be due in part to a more rigorous attempt to remove duplicates after 1994.

Figure 3.2.6

Rates of HIV seropositivity per 100,000 population by year of diagnosis, Alberta, 1986 to1997

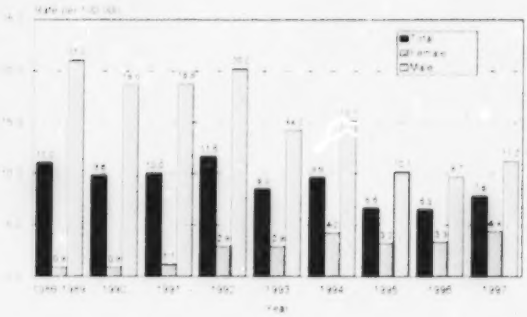


Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997

Figure 3.2.7 shows that the rate of HIV positive tests per 100,000 population has been steadily decreasing for males but increasing for females.

Figure 3.2.7

Rates of HIV seropositivity per 100,000 population by age and gender, Alberta, 1986 to 1997



Source Bloodborne Pathogens Database Alberta Health 1986-1997

Table 3.2.6

Cumulative incidence of HIV positive tests by exposure category, Alberta, 1986 to 1997

Exposure category*:	Total	Percent
MSM (Men having sex with men)	**1,726**	**59.1%**
Heterosexual	243	8.3%
IDU (Injection drug use)	**417**	**14.3%**
Endemic country (heterosexual)	33	1.1%
Blood/blood products	**100**	**3.4%**
other	32	1.1%
not stated/no known risk	**370**	**12.7%**
Total	2,921	100%

*Excludes perinatal transmission
Source Bloodborne Pathogens Database Alberta Health 1986-1997

The following table examines risk factors for HIV infection that are reported by individuals being tested for the virus. Persons who test positive for HIV may be at risk of infection under more than one exposure category. Individuals are assigned to a single exposure category based on a nationally accepted hierarchy of modes of exposure. For example, a person who injects non-prescription intravenous drugs may also be at risk of HIV infection through their sexual activities. Homosexual or bisexual sexual activity takes precedence over other factors; injection drug use takes precedence over heterosexual sexual activity.

Between the years 1986 and 1997, the most common risk factor identified by HIV positive persons was MSM (59 per cent), followed by IDU (14 per cent). Just over eight per cent reported a risk factor of heterosexual sexual activity (See table 3.2.6). These findings should be interpreted with caution because of the high number of reports with no identified risk factor.

Table 3.2.7 and Figure 3.2.8 illustrate the changes in reported risk factors over time. In 1991, over 70 per cent of persons testing positive for HIV reported a risk factor of MSM, five per cent reported high risk heterosexual sexual activity, and 10.4 per cent reported injection drug use. By 1997, the major risk factors identified were IDU (47.3 per cent), MSM (22 per cent), and heterosexual sexual activity (18.5 per cent). Note the increases in positive tests attributed to IDU and heterosexual sexual activity.

Table 3.2.7

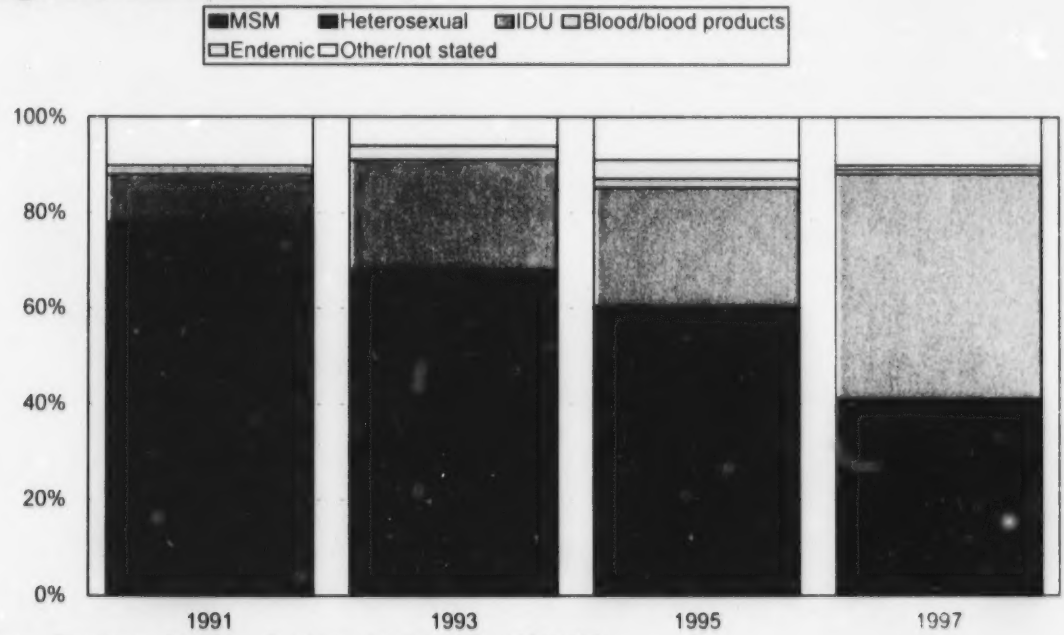
Percentage of HIV tests by exposure category (excludes perinatal transmission) and year of diagnosis, Alberta, 1986 to 1997

	Year of positive test:							
Factor:	1986-1990	1991	1992	1993	1994	1995	1996	1997
MSM	**68.1%**	**72.2%**	**62.3%**	**54.3%**	**47.2%**	**48.2%**	**42.0%**	**22.0%**
Heterosexual	2.1%	5.0%	12.6%	13.5%	12.7%	12.5%	25.4%	18.5%
IDU	**2.6%**	**10.4%**	**13.6%**	**23.3%**	**30.2%**	**25.0%**	**27.8%**	**47.3%**
Blood/blood products	6.3%	2.3%	1.3%	0.4%	0.0%	1.8%	0.0%	1.0%
Endemic	**0.7%**	**0.0%**	**0.3%**	**2.7%**	**3.2%**	**4.2%**	**0.0%**	**1.0%**
Other	4.3%	3.9%	2.3%	2.7%	4.8%	6.5%	2.4%	9.8%
Not stated	**16.0%**	**6.2%**	**7.6%**	**3.1%**	**2.0%**	**1.8%**	**2.4%**	**0.5%**
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997

Figure 3.2.8

HIV positive tests by exposure category (excludes perinatal transmission) and year of diagnosis, Alberta, 1991 to 1997

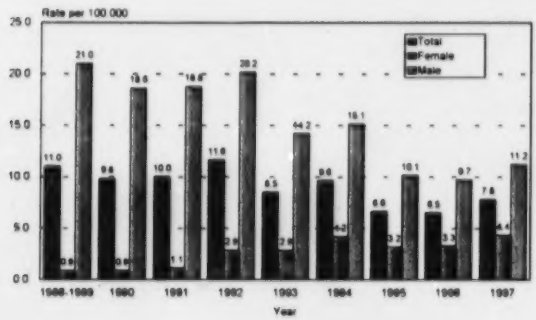


Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997

Figure 3.2.7 shows that the rate of HIV positive tests per 100,000 population has been steadily decreasing for males but increasing for females.

Figure 3.2.7

Rates of HIV seropositivity per 100,000 population by age and gender, Alberta, 1986 to 1997



Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997.

Table 3.2.6

Cumulative incidence of HIV positive tests by exposure category, Alberta, 1986 to 1997

Exposure category*:	Total	Percent
Heterosexual	243	8.3%
Endemic country (heterosexual)	33	1.1%
other	32	1.1%
Total	2,921	100%

*Excludes perinatal transmission.
Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997.

The following table examines risk factors for HIV infection that are reported by individuals being tested for the virus. Persons who test positive for HIV may be at risk of infection under more than one exposure category. Individuals are assigned to a single exposure category based on a nationally accepted hierarchy of modes of exposure. For example, a person who injects non-prescription intravenous drugs may also be at risk of HIV infection through their sexual activities. Homosexual or bisexual sexual activity takes precedence over other factors; injection drug use takes precedence over heterosexual sexual activity.

Between the years 1986 and 1997, the most common risk factor identified by HIV positive persons was MSM (59 per cent), followed by IDU (14 per cent). Just over eight per cent reported a risk factor of heterosexual sexual activity (See table 3.2.6). These findings should be interpreted with caution because of the high number of reports with no identified risk factor.

Table 3.2.7 and Figure 3.2.8 illustrate the changes in reported risk factors over time. In 1991, over 70 per cent of persons testing positive for HIV reported a risk factor of MSM, five per cent reported high risk heterosexual sexual activity, and 10.4 per cent reported injection drug use. By 1997, the major risk factors identified were IDU (47.3 per cent), MSM (22 per cent), and heterosexual sexual activity (18.5 per cent). Note the increases in positive tests attributed to IDU and heterosexual sexual activity.

Table 3.2.7

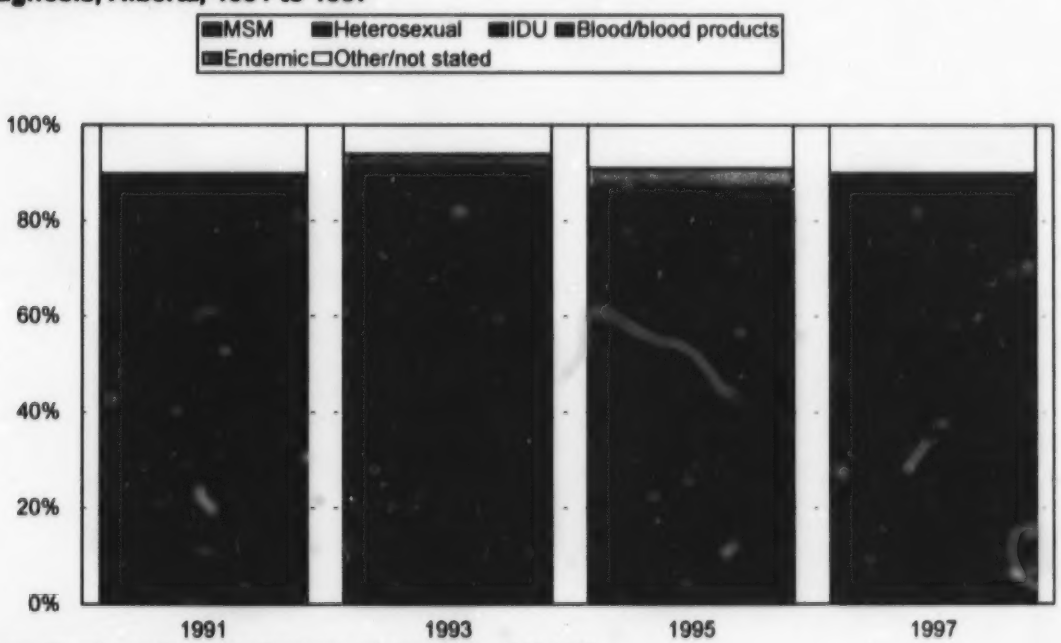
Percentage of HIV tests by exposure category (excludes perinatal transmission) and year of diagnosis, Alberta, 1986 to 1997

	Year of positive test:							
Factor:	1986-1990	1991	1992	1993	1994	1995	1996	1997
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Heterosexual	2.1%	5.0%	12.6%	13.5%	12.7%	12.5%	25.4%	18.5%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Blood/blood products	6.3%	2.3%	1.3%	0.4%	0.0%	1.8%	0.0%	1.0%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	4.3%	3.9%	2.3%	2.7%	4.8%	6.5%	2.4%	9.8%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997.

Figure 3.2.8

HIV positive tests by exposure category (excludes perinatal transmission) and year of diagnosis, Alberta, 1991 to 1997



Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997.

Table 3.2.8 and Figure 3.2.9 show that IDU is the major risk factor reported by both males and females who tested HIV positive in 1997. The next highest risk factor reported by males was MSM, followed by heterosexual sexual activity. Females reported heterosexual sexual activity as the second leading risk factor after IDU.

Table 3.2.8

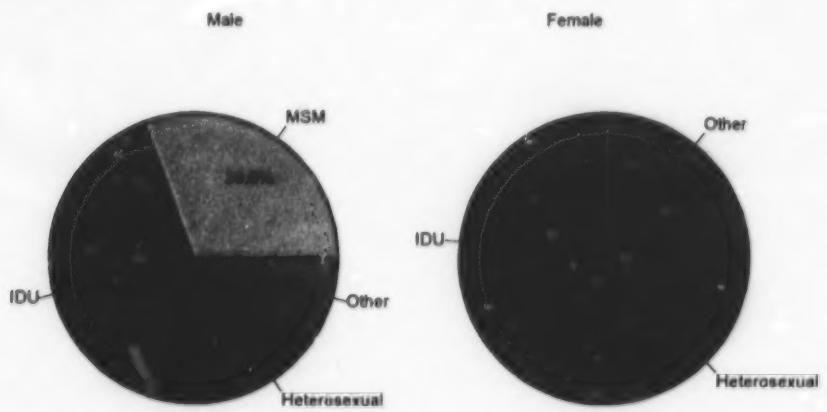
Incidence of HIV positive tests by exposure category (excludes perinatal transmission) and gender, Alberta, 1986 to 1997

Exposure category:	Sex: Male	Female	Unknown	Total	Percent
[illegible]	41			41	[illegible]
MSM/IDU	4			4	2.0%
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
IDU	69	26	2	97	47.3%
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
Blood/blood products	1	1		2	1.0%
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
Total	147	56	2	205	100%

Source: Bloodborne Pathogens Database, Alberta Health.

Figure 3.2.9

Incidence of HIV positive tests by exposure category (excludes perinatal transmission), and gender, Alberta, 1997



Source: Bloodborne Pathogens Database, Alberta Health.

Between 35,000 and 40,000 HIV tests are done in the Northern Alberta Provincial Laboratory and between 25,000 and 30,000 in the Southern Alberta Provincial Laboratory each year. Table 3.2.9 shows that during the past three years, roughly 0.3 per cent of all tests were positive for HIV and that the proportion of positive tests has been declining steadily since testing began in 1986.

The reason given for testing in more than one-third of all tests done, for both males and females and in both laboratories, was "anxiety/patient request." Other frequent reasons for testing were "multiple sexual partners" and "occupational exposure." "Prenatal screening" accounted for 16.6 per cent of tests done for females at the Southern Alberta Laboratory.

Table 3.2.9

HIV serological testing by geographic region and year of testing, Alberta, 1986 to 1997

	Geographical Region:		
	Northern Lab	Southern Lab*	Total
Year:	% Positive	% Positive	% Positive
1986	9.1%	10.8%	9.8%
1987	2.3%	2.6%	2.5%
1988	1.5%	2.1%	1.8%
1989	2.6%	2.4%	2.5%
1990	1.2%	1.9%	1.5%
1991	1.0%	1.0%	1.0%
1992	0.7%	0.7%	0.7%
1993	0.4%	0.6%	0.5%
1994	0.4%	0.5%	0.5%
1995	0.3%	0.4%	0.3%
1996	0.2%	0.3%	0.3%
1997	0.4%	0.2%	0.3%
Total 1986-1997	0.6%	0.8%	0.7%

* The total number of tests conducted at the Southern Provincial Laboratory may be underestimated by approximately 100 tests per year. Only test requistions that indicate a risk factor are included.
Note: The number of tests conducted does not reflect the number of individuals tested. The same person may be tested and counted more than once. The number of positive tests more accurately reflects the number of individuals who are positive because every attempt is made to remove duplicates.
Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997.

Table 3.2.8 and Figure 3.2.9 show that IDU is the major risk factor reported by both males and females who tested HIV positive in 1997. The next highest risk factor reported by males was MSM, followed by heterosexual sexual activity. Females reported heterosexual sexual activity as the second leading risk factor after IDU.

Table 3.2.8

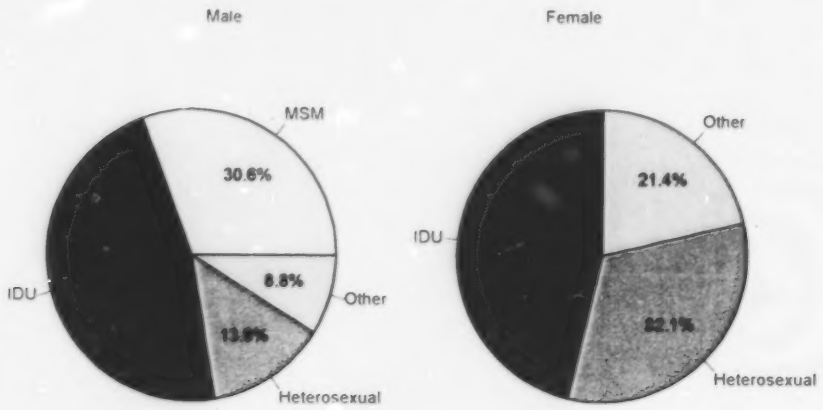
Incidence of HIV positive tests by exposure category (excludes perinatal transmission) and gender, Alberta, 1986 to 1997

	Sex:				
Exposure category:	Male	Female	Unknown	Total	Percent
MSM	**41**			**41**	**20.0%**
MSM/IDU	4			4	2.0%
Heterosexual	**20**	**18**		**38**	**18.5%**
IDU	69	26	2	97	47.3%
Endemic country (heterosexual)	**0**	**2**		**2**	**1.0%**
Blood/blood products	1	1		2	1.0%
Other/not stated/no known risk	**12**	**9**		**21**	**10.2%**
Total	147	56	2	205	100%

Source Bloodborne Pathogens Database Alberta Health

Figure 3.2.9

Incidence of HIV positive tests by exposure category (excludes perinatal transmission), and gender, Alberta, 1997



Source Bloodborne Pathogens Database Alberta Health

Between 35,000 and 40,000 HIV tests are done in the Northern Alberta Provincial Laboratory and between 25,000 and 30,000 in the Southern Alberta Provincial Laboratory each year. Table 3.2.9 shows that during the past three years, roughly 0.3 per cent of all tests were positive for HIV and that the proportion of positive tests has been declining steadily since testing began in 1986.

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Table 3.2.9

HIV serological testing by geographic region and year of testing, Alberta, 1986 to 1997

Year:	Geographical Region: Northern Lab % Positive	Southern Lab* % Positive	Total % Positive
1986	9.1%	10.8%	9.8%
1987	2.3%	2.6%	2.5%
1988	1.5%	2.1%	1.8%
1989	2.6%	2.4%	2.5%
1990	1.2%	1.9%	1.5%
1991	1.0%	1.0%	1.0%
1992	0.7%	0.7%	0.7%
1993	0.4%	0.6%	0.5%
1994	0.4%	0.5%	0.5%
1995	0.3%	0.4%	0.3%
1996	0.2%	0.3%	0.3%
1997	0.4%	0.2%	0.3%
Total 1986-1997	0.6%	0.8%	0.7%

* The total number of tests conducted at the Southern Provincial Laboratory may be underestimated by approximately 100 tests per year. Only test requisitions that indicate a risk factor are included.
Note: The number of tests conducted does not reflect the number of individuals tested. The same person may be tested and counted more than once. The number of positive tests more accurately reflects the number of individuals who are positive because every attempt is made to remove duplicates.
Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997

APPENDICES

Table A1

Number of AIDS cases reported to Alberta Health as of December 31, 1997, by year of diagnosis and age at diagnosis, Alberta, 1985 to 1997

Females	Age category:									
Year of diagnosis:	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
prior to 1985		1								1
1985										
1986							2			2
1987							1		4	5
1988		1							1	2
1989							2		2	4
1990										
1991						2	2			4
1992						2	2		1	5
1993						2	2		1	5
1994	1		1			2	3		2	9
1995						2	2			4
1996						1	1	2	1	5
1997						2	1	1	1	5
Total Females	1	2	1			13	18	3	13	51

Males	Age category:									
Year of diagnosis:	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
prior to 1985	1	1				2	6	2	2	14
1985						5	4	3	5	17
1986					1	7	5	4	4	21
1987						15	12	9	4	40
1988						16	20	17	10	63
1989						15	30	19	15	79
1990						18	31	15	11	75
1991						11	30	23	14	78
1992						12	47	26	10	95
1993						12	44	22	10	88
1994				1		14	66	31	10	122
1995						9	41	22	16	88
1996						6	29	15	8	58
1997					1	4	15	8	8	36
Total Males	1	1		1	2	146	380	216	127	874

Total	Age category:									
Year of diagnosis:	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
prior to 1985	1	2				2	6	2	2	15
1985						5	4	3	5	17
1986					1	7	7	4	4	23
1987						15	13	9	8	45
1988		1				16	20	17	11	65
1989						15	32	19	17	83
1990						18	31	15	11	75
1991						13	32	23	14	82
1992						14	49	26	11	100
1993						14	46	22	11	93
1994	1		1	1		16	69	31	12	131
1995						11	43	22	16	92
1996						7	30	17	9	63
1997					1	6	16	9	9	41
Total	2	3	1	1	2	159	398	219	140	925

Table A2

Cumulative HIV positive tests by age category and gender, Alberta, 1986 to 1997

Geographic region:	1986-1989	1990	1991	1992	1993	1994	1995	1996	1997
Female cases	**45**	**12**	**15**	**39**	**39**	**56**	**43**	**46**	**61**
Female population	4,945,242	1,282,833	1,304,874	1,323,944	1,339,730	1,348,262	1,356,880	1,375,751	1,390,244
Rate per 100,000 females*	**0.9**	**0.9**	**1.1**	**2.9**	**2.9**	**4.2**	**3.2**	**3.3**	**4.4**
Male cases	**1,049**	**241**	**247**	**268**	**189**	**202**	**136**	**132**	**156**
Male population	4,997,311	1,294,051	1,312,333	1,328,593	1,334,607	1,334,283	1,342,392	1,365,745	1,396,163
Rate per 100,000 males*	**21.0**	**18.6**	**18.8**	**20.2**	**14.2**	**15.1**	**10.1**	**9.7**	**11.2**
Total cases	**1,094**	**253**	**262**	**307**	**228**	**258**	**179**	**178**	**217**
Total population	9,942,553	2,576,884	2,617,207	2,652,537	2,674,337	2,682,545	2,699,272	2,741,497	2,786,407
Rate per 100,000 total*	**11.0**	**9.8**	**10.0**	**11.6**	**8.5**	**9.6**	**6.6**	**6.5**	**7.8**

Source Bloodborne Pathogens Database Alberta Health 1986 to 1997
* Population based on AHIP registration database mid-year counts

Table A3

HIV serological testing by geographic region and year of testing, Alberta, 1986 to 1997

	Geographical Region:								
	Northern Provincial Lab			Southern Provincial Lab			Total		
Year	Total Tests	Positive Cases	% Positive	Total Tests**	Positive Cases	% Positive	Tests	Positive Cases	% Positive
1986	**1,225**	**111**	**9.1%**	**931**	**101**	**10.8%**	**2,156**	**212**	**9.8%**
1987	6,015	138	2.3%	6,847	181	2.6%	12,862	319	2.5%
1988	**6,692**	**102**	**1.5%**	**6,094**	**130**	**2.1%**	**12,786**	**232**	**1.8%**
1989	7,280	190	2.6%	5,982	141	2.4%	13,262	331	2.5%
1990	**9,036**	**112**	**1.2%**	**7,576**	**141**	**1.9%**	**16,612**	**253**	**1.5%**
1991	14,305	148	1.0%	11,082	114	1.0%	25,387	262	1.0%
1992	**25,265**	**171**	**0.7%**	**20,916**	**136**	**0.7%**	**46,181**	**307**	**0.7%**
1993	27,036	98	0.4%	21,986	130	0.6%	49,022	228	0.5%
1994	**31,595**	**132**	**0.4%**	**23,834**	**126**	**0.5%**	**55,429**	**258**	**0.5%**
1995	31,693	92	0.3%	24,541	87	0.4%	56,144	179	0.3%
1996	**36,734**	**85**	**0.2%**	**27,513**	**93**	**0.3%**	**64,247**	**178**	**0.3%**
1997	37,807	145	0.4%	28,998	72	0.2%	66,805	217	0.3%
Total 1986-1997	**234,593**	**1,524**	**0.6%**	**186,300**	**1,452**	**0.8%**	**420,893**	**2,976**	**0.7%**

* All tests conducted by December 31 1997 and reported to Alberta Health by January 31 1998
** The total number of tests conducted at the Southern Provincial Laboratory may be underestimated by approximately 100 tests per year Only test requisitions that indicate a risk factor are included in the count

Note The number of tests conducted does not reflect the number of individuals tested The same person may be tested more than once The number of positive tests more acuretaly reflects the number of individuals who are positive because every attempt is made to remove duplicates

Source Bloodborne Pathogens Database Alberta Health 1986-1997

Table A1

Number of AIDS cases reported to Alberta Health as of December 31, 1997, by year of diagnosis and age at diagnosis, Alberta, 1985 to 1997

Females	Age category:									
Year of diagnosis:	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
[illegible]		1								1
1985										
[illegible]							3			3
1987							1		4	5
[illegible]		1							2	3
1989							2		2	4
[illegible]										
1991						2	2			4
[illegible]						3	3		1	7
1993						2	2		1	5
[illegible]	1		1			3	3		2	9
1995						2	2			4
[illegible]						1	1	1	1	5
[illegible]	1	2	1			13	20	3	10	51

Males	Age category:									
Year of diagnosis:	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
[illegible]	1	4				3	3	2	3	16
1985						5	4	3	5	17
[illegible]					1	7	5	4	4	21
1987						15	12	9	4	40
[illegible]						26	29	17	10	82
1989						15	30	19	15	79
[illegible]						18	31	13	11	73
1991						11	30	23	14	78
[illegible]						12	47	26	10	95
1993						12	44	22	10	88
[illegible]					1	14	36	21	10	82
1995						9	41	22	16	88
[illegible]						8	20	13	8	49
1997					1	4	15	8	8	36
[illegible]	1	4			1	116	286	166	122	696

Total	Age category:									
Year of diagnosis:	< 1 year	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50+	Total
[illegible]	1	4				3	3	2	3	16
1985						5	4	3	5	17
[illegible]					1	7	5	4	4	21
1987						15	13	9	8	45
[illegible]						26	29	17	10	82
1989						15	32	19	17	83
[illegible]						18	31	13	11	73
1991						13	32	23	14	82
[illegible]						12	47	26	10	95
1993						14	46	22	11	93
[illegible]					1	14	36	21	10	82
1995						11	43	22	16	92
[illegible]						8	20	13	8	49
1997					1	6	16	9	9	41
[illegible]	1	4			1	116	289	168	125	704

Table A2

Cumulative HIV positive tests by age category and gender, Alberta, 1986 to 1997

Geographic region:	1986-1989	1990	1991	1992	1993	1994	1995	1996	1997
Female population	4,945,242	1,282,833	1,304,874	1,323,944	1,339,730	1,348,262	1,356,880	1,375,751	1,390,244
Male population	4,997,311	1,294,051	1,312,333	1,328,593	1,334,607	1,334,283	1,342,392	1,365,745	1,396,163
Total population	9,942,553	2,576,884	2,617,207	2,652,537	2,674,337	2,682,545	2,699,272	2,741,497	2,786,407

Source: Bloodborne Pathogens Database, Alberta Health, 1986 to 1997.
* Population based on AHIP registration database mid-year counts.

Table A3

HIV serological testing by geographic region and year of testing, Alberta, 1986 to 1997

	Geographical Region:								
	Northern Provincial Lab			Southern Provincial Lab			Total		
Year:	Total Tests	Positive Cases	% Positive	Total Tests**	Positive Cases	% Positive	Tests	Positive Cases	% Positive
1987	6,015	138	2.3%	6,847	181	2.6%	12,862	319	2.5%
1989	7,280	190	2.6%	5,982	141	2.4%	13,262	331	2.5%
1991	14,305	148	1.0%	11,082	114	1.0%	25,387	262	1.0%
1993	27,036	98	0.4%	21,986	130	0.6%	49,022	228	0.5%
1995	31,603	92	0.3%	24,541	87	0.4%	56,144	179	0.3%
1997	37,807	145	0.4%	28,998	72	0.2%	66,805	217	0.3%

* All tests conducted by December 31, 1997 and reported to Alberta Health by January 31, 1998.
** The total number of tests conducted at the Southern Provincial Laboratory may be underestimated by approximately 100 tests per year. Only test requisitions that indicate a risk factor are included in the count.

Note: The number of tests conducted does not reflect the number of individuals tested. The same person may be tested more than once. The number of positive tests more acuretaly reflects the number of individuals who are positive because every attempt is made to remove duplicates.

Source: Bloodborne Pathogens Database, Alberta Health, 1986-1997.